The Journal of the American Medical Association

VOL. XXVIII. CHICAGO, ILL., APRIL 3, 1897. No. 14.

ADDRESS.

MEDICAL AND SURGICAL EXPERT TESTIMONY.

President's Address delivered at the Third Annual Meeting of the American Academy of Railway Surgeons, held at Chicago, Sept. 23, 24, and 25, 1896.

BY JOHN E. OWENS, M.D.

CHIEF SURGEON OF THE CHICAGO AND NORTHWESTERN, AND ILLINOIS CENTRAL RAILWAYS, CHICAGO, ILL.

Medical and surgical expert testimony is frequently so unsatisfactory and useless to the attorney, who seeks for truth; to the judge, whose desire is the administration of justice; so subversive of the dignity and good name of the medical profession, and yet so helpful to the unscrupulous lawyer, who duly thrives and fattens at the expense of his client, that the subject must surely be worthy of your earnest consideration. As the matter now stands, it is too often a farce, and some of our ablest and most conscientious attorneys, being strongly impressed with its inutility in many cases, and disgusted with the senseless wrangle which instructs neither judge, the bar or the jury, are much inclined to get along without it. Does it not bring discredit to the medical profession that experts and medical attendants, on the side of the plaintiff, testify along certain lines, and that those on the side of the defendant so often give testimony diametrically opposite in character? Let me remind you that there is no justification whatever for this state of things in our text books, which set forth in unmistakable terms the symptoms, pathology, prognosis and treatment of the various injuries and diseases of the human being.

A physician who has gained more or less knowledge of an injured person is summoned to testify as to the facts in a case as an ordinary witness. Before his services as such are dispensed with, he is almost always put in the position of a medical or surgical expert, and his opinion is asked on certain points in the case, in this capacity. Particularly if he is a man of limited experience, or of no experience in the matters in question, he is flattered because appealed to before the court, jury and others, to give "his" opinion as an expert. It is seldom that such a witness loses sight of himself and endeavors to base his answers on those principles which guide all of us at the bedside. Usually the less experienced, the more emphatic and positive is the expression of "his" opinion. This pride of opinion often leads him to set the teachings of the books at defiance.

Questions which seek to draw out the individual opinion, are as a rule, in bad form, and particularly so if the witness lacks that experience which enables him to make a proper application of the principles and practice of medicine and surgery—experience which leads the way to correct conclusions.

A brakeman either fell or jumped from the top of a moving freight train. The palpable injuries consisted of contusions and abrasions of the nose, left shoulder, wrist, thigh and right side of the chest. The patient ran a mile, chased a steer that escaped from one of the cars, and was on his feet for six hours. He reported at the surgeon's office the following day. Recovery from the injuries above named were speedy, but he continued to complain of illy defined pains in the right side of his chest extending to the epigastrium. A physician testified that the patient undoubtedly suffered from chronic and permanent inflammation of his solar plexus; that he could not be fooled as to the existence of pain; that the solar plexus "is something you can't be fooled on;" that the patient would keep the inflammation of the solar plexus the balance of his life. He further testified that he thought he had seen another case of inflammation of the solar plexus, but did not want to swear to it; that he never saw a case of this nature described in the most comprehensive work. And yet, on this notoriously inadequate data, derived from a patient who furnished essentially subjective evidence, a most emphatic and positive diagnosis was made, and the prognosis was formulated with equal emphasis.

Dec. 31, 1891, an engineer weighing 212 pounds, jumped from his engine to avoid a collision. He came under care immediately, and in five days went home. His injuries consisted of severe contusions of left hip and arm and of scalp wounds, the latter of which healed by first intention in a few days. Suit having been entered, in about three years the case came to trial. The evidence presented by the plaintiff's physician went to show that a marked varicosity of the veins of the left leg was produced by this accident, and that this condition was fully developed in two weeks. The physician who testified had been engaged in practice for twenty-six years. The varicosity was marked and well developed below the knee, and several veins in the same condition reached the saphenous opening. The history of the case, while the patient was under my care, did not record injuries to the leg below the knee, nor was there any complaint that directed our atttention to the veins. My fault here was in failing to examine all parts whether complained of or not.

One must feel certain, however, that were this development of veins possible in fourteen days, complaints would have been inevitable. My testimony was to the effect that the development of varicose veins above noted was not only not possible in two weeks, but was not even so at the end of four months. There is nothing in the pathology of this condition, with its dilatations, saculations, and ruined valves that could justify such a conclusion. He prescribed for the patient three months. The doctor further testified that this patient having previously received "an injury," followed by a difficulty in passing water, containing sediment and possessing a strong odor,

and having obstinate constipation, probably suffered from concussion of the spine, and that if numbness of the leg existed concussion of the spine was certain; that said concussion was progressive and permanent. What would be thought of this emphatic diagnosis of concussion of the spine, should an effort be made to maintain it, on such data, before one of our medical societies? Moreover, this patient had been hunting, and had been running his engine for three years and upward. The examination of this witness continuing, he stated that he would advise a patient suffering from an injury to the spinal cord, or a concussion, to work as a locomotive engineer; and that it would not be very injurious, but that he did not know of a man suffering from such an injury of the spinal cord who was able to work on his engine, almost constantly, except this plaintiff. The treatment would seem to parallel the diagnosis. When this gentleman was asked if he found any of the authorities consulted by him, citing a case where varicose veins appeared in three or four weeks after a jar, answered that the authorities were very reticent on that point. So much for individual opinion. The thread of error, which ran through this case from the first, naturally lead the attorneys to submit this question to a professor of surgery: "Assuming that on December 31, the left leg was as healthy as the right, and that at that time he jumped from an engine, running at a high rate of speed, and received severe bruises extending down his left side, from the hip to the foot, and in front of the leg on the joint, and that, between two and four weeks, varicose veins began to show themselves, and have been gradually growing worse, what would you say was the cause?" Answer: The injury. There was no distinction made here, you will observe between bruises and ecchymosis. How to dispose of "assumptions" in medico-legal practice is perhaps not for us to determine. Certainly nothing is *assumed* in pathology, but assumptions are notoriously common in the court room. Many, if not all of us, must be firmly convinced that there is no claim, however absurd, no assemblage of symptoms however unique and unmeaning, and widely at variance with principles and practice as set forth in our text books, and taught in our best colleges, but that doctors can be found who are not only willing, but who do actually, by testimony, endeavor to establish. As the matter now stands, it is extremely easy to secure such favorable witnesses by the use of the attorney's drag-net. The most absurd claim in this way may be established in the courts. Let me cite another case which has not yet come to trial, but one which the medical attendant believes in and is ready to support, namely, the claim of a woman, the mother of nine children, who suffered a falling of the womb, fully one-half of the organ being external to the vulvæ, and accompanied by a cystocele, and said to have been caused by a collision, in which the patient was thrown against the front seat, and then backward against the seat upon which she had been sitting. It is maintained that this condition, in the degree above named, required only two weeks for its development. Many of you have doubtless observed that the evidence presented by the defendants, in cases of personal injury, is in no material degree essential, as evidenced by the attitude of the jury in their verdict. Judge William H. Francis in the following words reminds us of this state of things (*Medico-Legal Journal*, March, 1896): "In the verdicts of juries against corporations, a feeling of prejudice is almost universally acknowledged, and the attorney for the plaintiff feels reasonably certain of gaining the case provided it goes to the jury." "The expert testimony of the experienced railway surgeon is often regarded as of less weight than the testimony of the plaintiff himself." We all know how unique are the symptoms and the details of complaints made by the patient of his sufferings and feelings in cases of personal injury, and often, how much these vary from anything found in the literature of our profession. I have more than once closely watched juries in personal injury cases and have noted the interest taken in plaintiff's testimony, and the toleration, rather than interest, that was manifested toward the witnesses of the defendant. It would seem to me that such juries, perhaps unwittingly, owing to the deep-rooted prejudices against railways, have two objects in view, namely, first to hear the plaintiff describe his or her sufferings, and the supporting testimony of medical and surgical experts. Second, to determine as speedily as possible the amount that should be paid. The evidence, to show the fraudulent nature of the claim and the exaggeration of the symptoms is but little considered. Besides, one may imagine the tumult in the mind of the honest jurors when the doctors on one side make certain statements, and those on the other offer testimony of a diametrically opposite character. How can we expect the most intelligent juror to harmonize these conflicting statements and arrive at a just conclusion, to say nothing of a juror who may be less intellectually favored? What is the natural result? Rather than to take the chance of doing an injustice to a presumably injured person, the verdict is rendered in his favor, often for a large amount. The experienced honest medical and surgical expert, in many instances, with a full knowledge and appreciation of all the facts, concludes that the verdict was rendered solely for the purpose of punishing the corporation. I have been interested in trials where witnesses were so questioned as to bring out very little information for the use of either side, and the court itself was but little if any benefited by the medical witnesses. The unbiased truth would be best for all sides, but there is no certainty whatever of securing it under the methods now in vogue in this and in other States.

The science and administration of justice in cases of personal injury, require the consensus of opinion of the medical profession as set forth in our text books, and not so much the private or individual opinion of the witness. These text books should be used more frequently in the courts, not as is usual for the purpose of entrapping the witness, but as an aid to the witness and to the court, just as legal authorities are employed. Opinions that materially vary from them should not be accepted.

In 1889 a girl 14 years old, the victim of a crossing accident, suffered a fracture of the collar bone as well as two or three scalp wounds. The patient was conscious, but in a highly nervous state. Several months after the accident a piece of loose bone was removed from the clavicle. About this time twitchings of the hands, arms and left side were observed. The day following the operation the patient had a series of convulsions. These convulsions were seen daily the following week, and continued a month. There were jerkings of the limbs, rigidity and alternate relaxation followed by a similar seizure, after which she got up, declaimed, sang songs, whistled, and then from exhaus-

tion fell over in a state of quietude. Her physician had known her to hiccough for three hours. The abdomen became tympanitic in a marked manner. Any excitement easily caused a renewal of the attacks. She had smaller seizures, such as stiffening of arms and legs. Hystero-epilepsy was diagnosticated. In addition to the symptoms just noted, there existed left hemianesthesia, impairment of color sense, contraction of the field of vision of the left eye, loss of the sense of smell, and those of taste and hearing on the left side. There was no perceptible difficulty in walking, but she could not use the left hand as in washing cups, etc., longer than ten or fifteen minutes without dropping something. There was no biting of tongue or frothing of the mouth; no coma. A needle thrust into the left side, arm or leg was unfelt. The sizzing of the galvano-cautery could be heard and the vapor therefrom seen, but the result was absolutely negative. She could taste sugar with the left half of the tongue, but not with the right. The tick of a watch could only be heard when placed against the left ear; grasp of left hand was normal. She seemed to delight in trying to mislead, and her mind was in a fickle and uncertain state. She had never menstruated. This condition lasted until the time of the trial, during which she was seized with a violent convulsion in court, and was carried out screaming. The physician in attendance testified that the symptoms would be permanent. Others testified that were the patient removed from the family, freed from morbid curiosity of which she was the object, and of the unnatural solicitude that was lavished upon her, with a very little medicine, in six months, she would probably recover. A gynecologist testified that if she remained well for two years, marriage would be safe. In this case, so very interesting in many respects, we find one opinion as to the permanency of the affection, and others promising recovery with proper treatment. We think that the consensus of opinion of the profession is in accord with the latter prognosis.

Judge Abram H. Daily remarks that "surgeons of humanity and love of fairness are advancing in importance to the railroads," and I may add, likewise to the injured. The only prejudice that exists against railway surgeons is to be found amongst quack lawyers. Not long since my assistant and myself, several days after an accident, visited a patient at the request of a company, for the purpose of taking charge. We were met at the head of the stairs by a stalwart fellow who stood guard and informed us that he had instructions from the attorney not to allow any railway surgeons to enter. In this way, the case could be nursed along, and the demands on the railway company could become more extravagant. Note an additional extract from Judge Daily's paper: "The attorney who is guilty of making use of false evidence in a court of justice should not only be debarred from further practice, but subject to a criminal procedure." As railroad surgeons, our responsibility to the injured is in no sense diminished by the fact that we are employed and remunerated by railroad companies. Our first aim must be the faithful discharge of our professional duty to the patient.

I have never been called upon by the railways with which I am connected to perform the services of a claim agent in any sense, and I have moreover never encouraged, this on the part of any of our surgeons. All that I have insisted on is a faithful discharge of professional duty to the patient, and a fair and honest report of injury and disability, if any. Any activity in the direction of a settlement of claims has been the subject of grave and adverse criticism by the court, and the surgeon is thus brought into disrepute, and the profession proportionately degraded. "In venturing an opinion as to the nature and extent of the injuries of the patient under our charge, we will be held to the exercise of a high degree of skilled knowledge as well as integrity by the courts."[1]

It is most remarkable that all of the States of the Union have not passed a law permitting, where desirable, a physical examination of parties who lay claim to injuries and seek compensation for the same. The position so often taken by the attorneys for the plaintiff, even after their client has been subjected to the study of one or more of their own doctors, is that it is disagreeable, indelicate and against the wishes of their client, and if a woman, that modesty forbids further examination, and that they themselves object to it. May we not with propriety ask who gave the plaintiff's medical witnesses and examiners a monoply of delicacy, morality and of that gentleness and propriety that must characterize every physician in his relation to his patient, or to the patients of others? It must be quite right that both attorneys and patients, or either, should have the privilege of objecting to certain examiners, but it is not just or conducive to the administration of justice that a physical examination be denied the attorney for the defense when desirable. The new law passed in New York compelling plaintiff to submit to a physical examination in damage cases, settles the question of giving that right to plaintiff exclusively. The plea that it would outrage delicacy or modesty is not a valid objection.

In regard to the law permitting examinations, other States should follow, and there is no State in the Union where this law is so much needed as in Illinois, where quack lawyers are so numerous and so ravenous; and where, so far as I am aware, there is no restraint whatever put on them by the bar association, and little or none by the courts. The Fellows of this Academy should use their influence in this direction.

The courts desire an accurate ascertainment of facts. In personal injury cases, the erroneous conclusions and wrong theories set up by certain doctors and fanned into a flame by attorneys, seriously clog the wheels of justice. The plainest and best sustained opinions of the honest medical and surgical expert are too often misinterpreted by the attorneys as evidenced by their cross-examination. No science is so frequently called upon by the courts for evidence, and the physician should be one of the most satisfactory witnesses, but such is notoriously not the case. It might be expected that he would see nothing but the truth and established facts in connection with the matter subjected to him, but the hopeless conflict of medical testimony tells a different story and nullifies that which, under other methods, would be a desideratum. Among the causes for the present condition of the matter now under consideration may be mentioned the present method of securing expert medical and surgical experts; ignorance, dishonesty, partisanship, pride of opinion, want of preparation and the skill displayed by certain attorneys in bringing about a conflict of medical testimony in

[1] Duty and responsibility of the Attending Physician in cases of railway surgery from a Lawyer's stand-point by Judge Abram H. Daily, (Medico-Legal Journal, March, 1896).

order to weaken the evidence that may be unfavorable to the two sides respectively; a failure to appreciate the fact that *no one* is competent to testify as an expert in *all* departments of medicine and surgery. The witness employed as an expert should have the proper qualifications. Clark Bell says, "An expert is one who has made the subject on which he gives his opinion a matter of particular study, practice or observation, and he must have a particular special knowledge upon the subject concerning which he testifies."[2] Suggestions have been made for remedying this evil as for instance the following:

"A court should be authorized by law, or by agreement of parties, to appoint a commission of one or more disinterested and unbiased physicians to investigate the medical questions in concert, and make a report or testify as to the findings." "Every facility for investigation should be afforded by the parties." "If the parties should not agree, the court should seek to appoint only those of the highest reputation in the vicinity." "The position would be an honorable one, and the conclusions would be honest."

It has also been proposed, that, by an act of legislature, the judges of the various courts be permitted, yearly, to elect a Board of Experts in each department of the medical sciences, paying the same out of city or State funds, so that when expert testimony, relative to any subject is required, that particular board of experts should by order of the court convene to discuss the same from a scientific stand-point, and investigate by chemic and physical analysis. Either side might retain scientists to conduct examinations, but the testimony of such scientists should be confined to the board of experts, and after such testimony is submitted and the board of experts has finished its investigation, the report handed to the court by such board should be considered expert testimony. Finally whether this would be best or not, I am not prepared to say at this time, but certainly some laws should be enacted through the operation of which the dignity of a scientific profession will be upheld, and medical and surgical expert testimony be entitled to the respect of the judiciary and the honorable members of the bar.

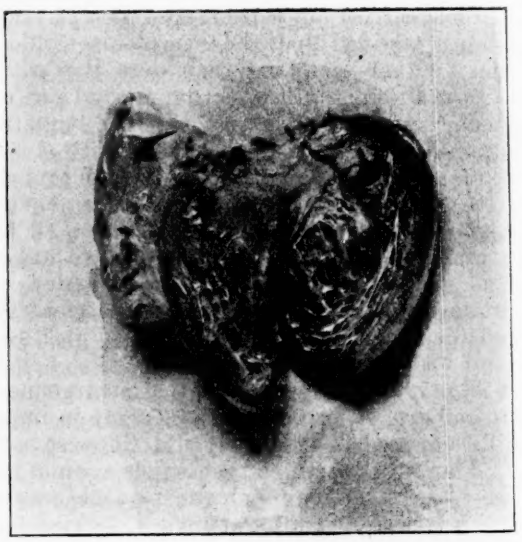
ORIGINAL ARTICLES.

A CASE OF ACUTE VEGETATIVE ENDOCARDITIS WITH ABSENCE OF HEART MURMUR—NECROPSY.

BY JAMES W. WALKER, M.D.
ILLINOIS EASTERN HOSPITAL FOR INSANE, KANKAKEE, ILL.

The interest attached to the following case lies in its rarity as a clinical observation, the value in the frequent and carefully recorded examinations throughout the greater portion of the course of the disease, and in the postmortem findings. Osler, writing of malignant endocarditis, says, "In some instances the most careful examination has failed to discover a murmur" and further "Even on examination there may be no murmur present. Instances are recorded by careful observers, in which the examination of the heart has been negative." DaCosta writes, "Nor is what has been said of endocarditis invariable. If the question be asked 'Can endocarditis occur without a blowing sound?' it must be answered in the affirmative." It is not difficult to understand why the minute vegetations frequently met at autopsy, giving the surface of the valve a roughened appearance, may not give rise to adventitious sounds, but the absence of murmur in a heart where the vegetations become large enough to fill the aortic orifice is a problem not easy of solution.

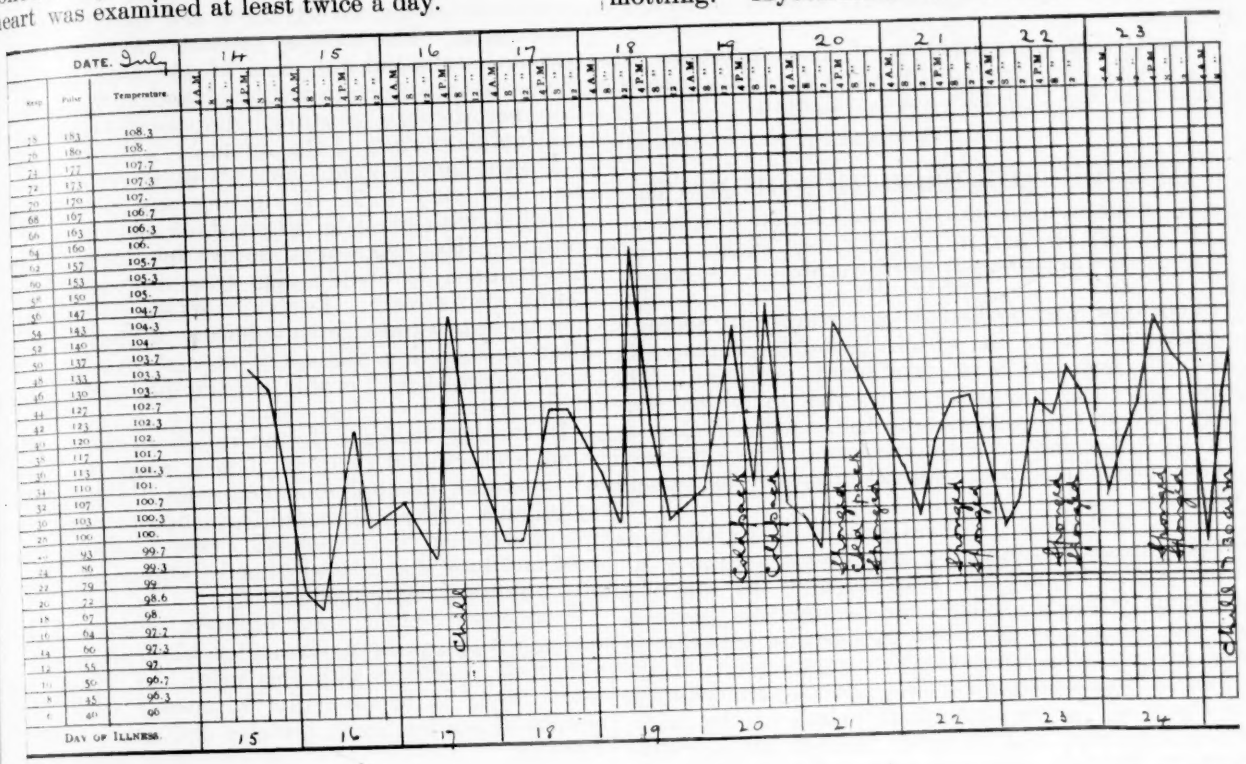
R. W. age 23, male, was admitted to Cook County Hospital, Chicago, to the service of Dr. Sintzel, July 14, 1894. Family history good. Past illnesses included the diseases incident to childhood, rheumatism, and malaria when he was nineteen. Two weeks prior to admission he had an acute attack of gonorrhea, which was soon followed by headache, malaise, epistaxis, chills and diarrhea, becoming progressively worse until he was bedridden. On admission he was very weak, had headache, diarrhea and some abdominal tenderness. Physical examination showed poor nutrition, mental clearness, eyes and tongue negative, lungs negative, heart tones strong, clear and regular, liver dulness from sixth rib to within one inch of umbilicus, spleen not palpable, temperature 103.3 F, pulse 84, urine acid, sp. gr., 1015, no albumin, no casts. I believed it to be a case of typhoid fever. On July 18, the urine contained albumin but casts were not found.

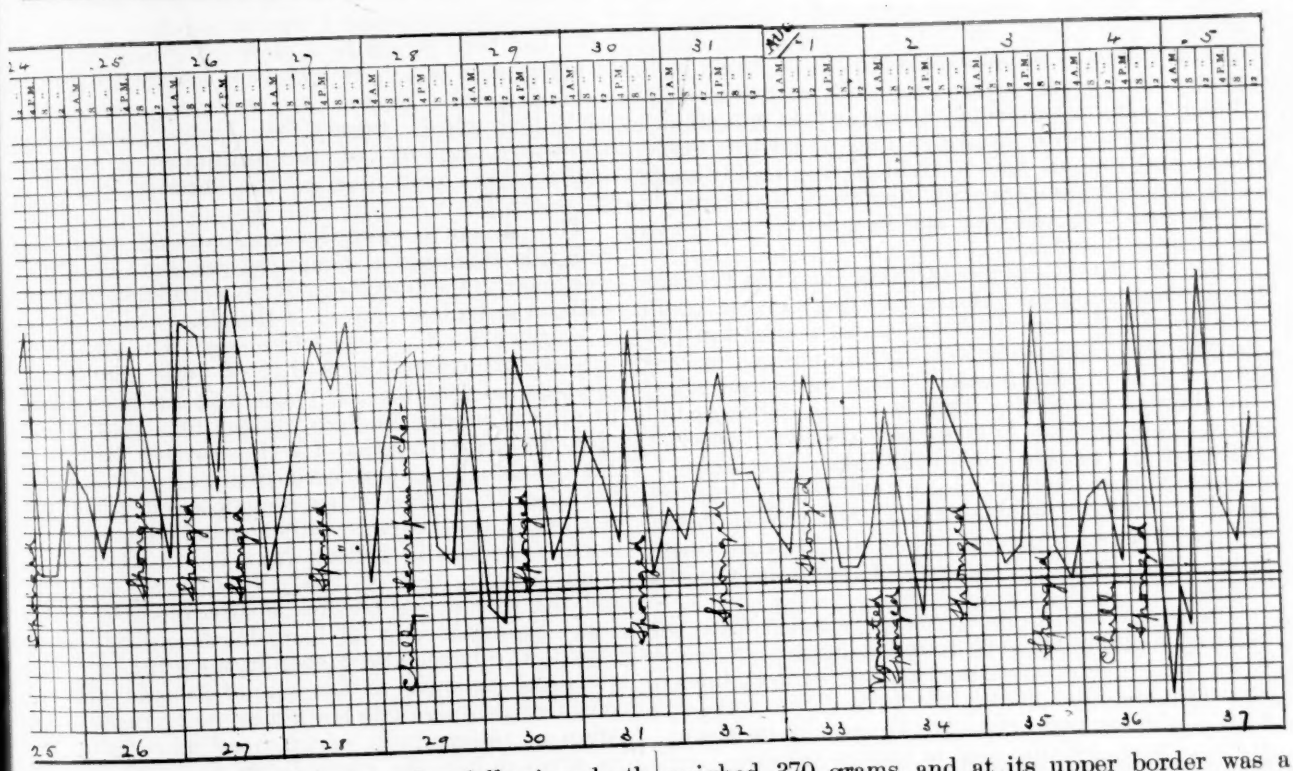


The sickness ran an atypical and uneventful course for two weeks; typhoid seemed improbable and no diagnosis was made. The temperature was irregular, the pulse increased to about 100 per minute, the patient grew weaker and lost all appetite for food. His heart was examined carefully and frequently, under favorable conditions, during the time he was in the hospital, by Drs. A. R. Edwards, H. M. Richter and myself without any adventitious sound being heard at any time. On July 28, two weeks after admission, he complained of pain in his chest. By August 1, the heart had become exceedingly forceful, so much so that pulsation was visible in the small arterioles all over the body; no increase in the area of heart dulness; cyanosis of extremities; dyspnea; dulness over the right side of the chest posteriorly and a few râles; no delirium; temperature 103, pulse 116. These symptoms continued with increasing intensity until August 4, when the pulse was terrificly strong. The day following it began to lose this quality and weakened to about normal force, increasing in frequency. Respirations 48 per minute.

[2] The Medico-Legal Journal, December, 1893, page 307.

At this time there existed the physical signs of fluid in both pleural cavities. By evening his face became pinched and cold, respiration rapid and shallow, pulse thready, 158 per minute, delirium developed, speedily followed by death. During the last few days the heart was examined at least twice a day.





An autopsy was made on the day following death in the presence of Drs. R. LeCount, E. H. Ochsner and H. M. Richter, with the following findings: Pericardium smooth and shining; heart about the size of owner's fist, weight 350 grams; the aortic orifice filled with a foreign mass. After opening the heart, the anterior and left posterior cusps were found to have large masses of soft, friable, nodular vegetations depending from their ventricular surfaces, the right posterior cusp being unaffected. The other valves were normal. Endocardium showed yellowish mottling. Myocardium rather firm. The spleen weighed 370 grams, and at its upper border was a firm dark-red wedge-shaped infarct 3½ cm. long and 2 cm. across the base, which was peripheral. The left kidney showed an infarct at its lower border 15 mm. by 6 mm., with a bright red zone surrounding it. Straw-colored fluid in both pleural cavities. Conges-

tion of both lungs. One calcareous nodule in the upper lobe of right lung. Ecchymosis in mucous membrane of intestine. Congestion of liver.

Diagnosis.—Acute vegetative endocarditis. Infarct of spleen and left kidney. Hydrothorax. Pulmonary, splenic and hepatic congestion. Healed tuberculosis of lung.

Bacteriologic examination of the vegetations was not made, the presumptive etiologic relation of the gonorrhea was therefore not demonstrated.

HEMORRHAGE FROM THE STOMACH.

A Clinical Lecture delivered in Rush Medical College.

BY HENRY M. LYMAN, A.M., M.D.

PROFESSOR OF THE PRINCIPLES AND PRACTICE OF MEDICINE.
CHICAGO, ILL.

You have recently had an opportunity for seeing a number of cases in which hemorrhage from the stomach was the most prominent symptom. The case before you completes the series in which were displayed several varieties of the accident. Let us briefly review the more typical forms thus presented before proceeding to the consideration of the present example.

In the first place I will ask you to recall the facts in the history of the young man whom you saw a few weeks ago. Twenty-two years of age; the son of a vigorous, athletic father and a delicate, nervous, anemic woman, he inherited the joyous appetites of the one and the over-sensitive organization of the other. After a fortnight of attendance upon political meetings and active exertion in behalf of the candidates for office in his ward, he lost his appetite, became feverish, vomited repeatedly through the whole of one night, and in the morning was alarmed by the discovery of numerous streaks of blood in the mucus that was ejected from his stomach. This brought him to the clinic, where he told you that he was suffering with headache and epigastric tenderness; and you all had a sight of his thickly coated tongue and woe-begone countenance. We were able to reassure him, however, and in a few days he was quite as well as usual.

Let me also remind you of the tall and bony Scotchman whom you heard relate his experience of vomiting blood. He had not felt well for a long time, yet he was able to continue work, until one day it seemed to him as if a little stream of warm water were trickling through his body. This was soon followed by a sense of epigastric fullness and pressure, presently followed by nausea and vomiting. He threw up numerous large clots of blood, sufficient in quantity to fill an ordinary washbowl half full. Next day he voided at stool a large amount of black fecal matter which was largely composed of partially digested blood.

Then you saw a pale young woman who still retained a plump and well-rounded figure, but whose clear, white countenance was marked by deep lines of anxiety along the naso-labial folds. She gave us a history of long-continued gnawing pain in the epigastric region, culminating, at last, in copious vomiting of blood. Entering the hospital, she was treated for gastric ulceration and made a good recovery.

At one time, also, we had in the hospital a fatal case which you did not see—an elderly gentleman who had long been ailing and was suspected of a cancerous disease of the stomach. But the gastric juice always yielded a fair quantity of free hydrochloric acid, so that it seemed more likely that he was the victim of senile degeneration of the various organs connected with digestion. One day he began to vomit blood, and continued to vomit clots or dark venous blood for several days and finally died from exhaustion. The autopsy revealed no inflammation nor ulceration, but the veins of the lower portion of the esophagus were in a dilated and varicose condition, permitting a continual diapedesis of blood into the cardiac portion of the stomach.

I once knew a gentleman, about 35 years of age, who was very fond of hunting and who became infected with malaria while duck shooting in the autumn. He had several severe hemorrhages from the stomach—probably also from the duodenum—before his recovery. Twelve or fifteen years later he was again prostrated with vomiting of blood, and died after a lingering illness of several months. The autopsy revealed a chronic, contracting inflammation of the liver.

In another instance I was called to see a young woman who was shut up in a dark room on account of hysteric photophobia and other characteristic symptoms. She had ceased to menstruate and every month vomited blood instead. She, however, recovered and took a husband shortly afterward without any untoward consequences.

I once saw a child, about eighteen months old, suffering with purpura hemorrhagica, who vomited blood, and also voided it with the urine and feces. The same thing is occasionally witnessed during the course of scarlet fever, measles and other infective diseases.

On another occasion I was called to a young man who had been struck by a piece of wood, flying from a machine in which it had been revolving at a high rate of speed. He was in great pain, vomited blood and died within twenty-four hours. The autopsy showed a rupture of the substance of the liver, and a severe contusion of the anterior wall of the stomach.

The patient to whom I wish to direct your attention this morning is a man, 54 years old, admitted a week ago to the hospital. He is emaciated and pale, without any discoloration of the skin, which, you see, is everywhere of a clear whiteness. His cheeks are sunken, his expression is that of pain and anxiety. He tells us that for many years he has been subject to attacks of painful indigestion; that they became more frequent and that for the last ten months he has continually experienced pain and discomfort in the epigastric region. His lungs present no evidence of disease, the heart is rather small and its pulsations as he lies in bed are from 100 to 120 beats per minute. The liver is decidedly reduced in volume and the spleen can hardly be discovered by percussion. Subcutaneous fat has almost entirely disappeared; the lymphatic glands in the groins are numerous and enlarged to the size of a bean. There is considerable epigastric tenderness and a decided sensation of resistance is experienced when the fingers are pressed into the space below the xiphoid cartilage. The same region is quite dull on percussion, though the cardiac end of the stomach yields a clearly tympanitic resonance. The gastric juices, withdrawn through a syphon tube, are very acid, but yield no free hydrochloric acid. In short, we have evidence sufficient to justify the diagnosis of a cancer of the

stomach. I desire, however, to show you a quantity of matter vomited by the patient a few hours ago. There is about a teacupful of slimy liquid, which has deposited nearly one-third of its volume in the form of a dark-brown, rusty colored paste that in many respects resembles the grounds of a coffee pot. This contains blood corpuscles in all stages of disintegration, broken down epithelium from the stomach, blood pigments, yeast cells, and other microbic organisms; it represents an actual hemorrhage in which the blood escapes slowly from the vessels, and is partly digested before it is discharged in the act of vomiting.

You are now in a position to recognize the fact that many causes may operate to occasion hemorrhage from the stomach. Let us review them in tabular form:

Mechanical injuries.

Chemical erosion with acids, alkalies, etc.

Heat, as when very hot substances are swallowed.

Inflammation and ulceration of the stomach.

Carcinoma of the gastric walls.

Varicosity of the gastric veins, with or without cardiac disease.

Aneurysm and rupture of the gastric arteries.

Hepatic disease and obstruction and stagnation of blood in the portal vein.

Hemorrhoidal or menstrual suppression.

Pregnancy, violent vomiting, excessive parturient effort.

Nervous derangement, hysteria, paretic dementia.

All of the so-called infective diseases, including the malarial class.

Blood diseases, such as pernicious anemia, scurvy, purpura and hemophilia.

Mineral poisons, arsenic, phosphorus, causing fatty degeneration of the vascular walls.

Auto-intoxication, such as occurs in uremia and cholemia.

Tubercular disease of the spine or other neighboring organs occasionally causes abscesses that erode the gastric wall, and thus produce hemorrhage. Sometimes an aneurysmal sac may burst into the stomach and thus excite vomiting of blood.

Gastric hemorrhage occurs among women more frequently than among men, for the reason that its most common cause—ulcer and disturbance of menstruation—are usually encountered by the female sex. Children seldom exhibit the phenomenon, except in the form of melena neonatorum, which is sometimes witnessed in the case of newborn infants.

I must now proceed to warn you that mere expulsion of blood does not by any means warrant the diagnosis of gastric hemorrhage; there are other sources from which blood may enter the mouth. Bleeding from the posterior nares, pharynx or fauces is often sufficient to cause copious expectoration of blood, and sometimes enough may find its way down the esophagus to excite bloody vomiting. In the same way blood from the air passages may reach the stomach and there arouse the act of emesis. But careful examination of the cavities in question, and observation of the quality of the blood will soon clear up the diagnosis. Sometimes, in certain cases, there is vomiting of dark brown or rusty-colored matter that may be incautiously mistaken for the coffee-ground discharge of cancer, but a microscopic examination will reveal the absence of blood corpuscles, and may sometimes detect the presence of bismuth, iron or other preparations which darken the contents of the alimentary canal. It is hardly possible that a physician could be deceived by the presence of wine, coffee, beet juice, cherries, red raspberries or other coloring matters in the evacuations from the stomach. Greater difficulty would be experienced in cases of malingering, where the patient had swallowed the blood of an animal and vomited it for the purpose of deception. Observation in confinement and the absence of all symptoms of real loss of blood, such as pallor, faintness, debility and tardy convalescence, would, however, be decisive against actual hemorrhage.

Hemorrhage from the stomach is not often fatal, but I have seen patients reduced by it to the last extremity before the cessation of bleeding. In cases of chronic ulceration of the stomach the patient is usually enfeebled and pale in consequence of repeated losses of blood and malnutrition. Sometimes these sufferers appear to be plump and in good flesh, but this appearance is due to imperfect oxidation through impoverishment of the blood. The red corpuscles are not sufficiently numerous to convey sufficient oxygen to the tissues, and the nutriment of the body is therefore largely converted into fat. Hemorrhage is sometimes the direct consequence of a fatty degeneration of the vascular walls in cases of chronic anemia.

Though not often a direct cause of death, the occurrence of gastric hemorrhage is to be deplored, by reason of the profound exhaustion and tardy or incomplete convalescence that follows. In every case of gastric hemorrhage it is important to ascertain its underlying and predisposing causes, so as to guard against its recurrence. This is especially important in toxic and infected cases, including malarial cachexia. During an attack of hematemesis the patient should remain in the recumbent position, and if he becomes faint the head should be depressed by raising the foot of the bed. He should swallow small pieces of ice, an ice-bag should be laid over the seat of pain, which, in round ulcer of the stomach, is usually very definitely circumscribed, and half a drachm of purified liquid ergotin should be given every six hours by hypodermic injection. If faintness and collapse are imminent, the ordinary restoratives should be employed, mustard externally, enemas of whisky and water and the hypodermic injection of a drachm of a 10 per cent. solution of gum camphor in olive oil. The patient should be nourished for several days by rectal feeding, nothing being introduced into the stomach but ice and a little iced milk. When there is reason to believe in the existence of an ulcer, olive oil may be given in half-ounce doses as often as they can be tolerated. When there is no inclination to vomiting, styptics may be cautiously administered, but their utility is considerably restricted by the fact that they so often excite nausea and violent retching. Among the most valuable of these agents are tannic acid, dilute sulphuric acid, acetate of lead with opium, the solution of the persulphate of iron, fluid extract of hydrastis, oil of turpentine and Merck's stypticin in doses of one grain every two or three hours. A favorite domestic remedy is alum whey, prepared by the addition of a teaspoonful of alum to a pint of milk, which is then gently heated till coagulation takes place. The whey should be strained away from the curd, and drank cold in doses of an ounce every hour or two. Whatever is given should be administered in small quantity, frequently repeated, so as to avoid vomiting.

When hemorrhage is dependent upon malarial poi-

soning, quinin should be given in large doses, fifteen to thirty grains a day. If not tolerated by the stomach, it may be given by rectal enemata. In desperate cases the propriety of transfusion of blood may be presented for consideration. But experience shows that this remedial measure only too often serves to revive a bleeding that had merely subsided so long as the veins were empty. Better results have been obtained from the hypodermic injection of one or two pints of a salt solution of the strength of three-quarters of 1 per cent., or three and a half grains of salt to the ounce of distilled water. This solution may be very easily injected into the loose areolar tissue in either flank of the body, whence it is rapidly absorbed into the lymphatic vessels.

A PROPOSED TREATMENT FOR CONSUMPTIVES.

BY H. T. TILLOTSON, M.D.
CHICAGO.

Since Koch's discovery of the tubercle bacillus, and its manner of communicability, there has resulted in the medical profession, and latterly in the laity, efforts for public defense against infection. The means primarily adopted by the profession, were for the relief of the individual, as cod liver oil, hypophosphites, creosote, sulphureted hydrogen, Koch's tuberculin, and many others, all of which have been demonstrated practical failures in the treatment of pulmonary consumption. These failures have caused the laity, as city and State governments, to contemplate isolation. Modern isolation is again developing the hospital character, with a pesthouse tendency. Compulsory isolation creates a true pesthouse, to prove as unsatisfactory as prior examples, in dealing with this disease. So-called isolation is a misnomer. A befitting appelation is aggregation, and will be so used in speaking of institutions for consumptives. Voluntary isolation or aggregation is public or private. The public institutions are patronized by the poorer class, supported and controlled by the public, and necessarily located in or near cities. If not positively injurious, they are certainly of little value as curative agents, and could as well be called poor houses.

The private institution is much better, and known under various names, as homes, sanitaria, hotels, springs, etc. They are patronized by the financially fortunate. They are located in all parts of the country, taking advantage of all available climatic conditions and giving accomodation to all diseases, the only requisite for admission being the price.

Modern isolation means an aggregation of tubercular individuals, under one roof or in one colony, in all stages of the disease, causing a constant series of reinfections among the inmates, delaying recovery or rendering it impossible. It is a recognized truism that pulmonary tubercular cases are dangerous to inmates of general hospitals, and are denied admission. Is it logical to collect these infected individuals between four walls, to become a constant source of danger to each other and expect them to recover?

A striking example of irrational methods for public preservation from infection is the late contention in Boston, over the site of a Free Home for Consumptives, under municipal auspices. It was proposed to erect a cheap, faulty, brick building 60 x 100 feet, 4 stories, on Quincy street, in a residence district. The inevitable result will be a germ factory with a prolific out-put. It will remove perambulating patients from nature's remedies, sunshine, free air and exercise, to place them in a veritable culture medium, or incubating oven, with questionable fresh air, administered in medicinal form and doses; with sunshine a rarity, a decrease in tissue resistance and leucocytic activity, and increase in mortality. Here is neither public preservation nor so-called isolation, but simply aggregation, exhibiting a clearly defined determination to defend the public at the expense of the inmates. Such institutions may be profitably used as a last home for hopeless cases only, and should be located in surburban districts. All tubercular aggregations, whether in city or country, should be condemned as improper or perilous for walking cases who may be benefited or recovered by climatic treatment.

Another and very important objection to aggregation is "mental infection." By mental infection, I mean the acquisition of a saturnine mentality, whereby a primarily favorable case becomes unfavorable by association with other invalids, giving ready credence to idle gossip, the daily comparison of symptoms, resulting in unfavorable comments; some make constant use of the clinical thermometer, shaking down the mercurial column with professional dexterity. Their daily sedentary life and habits compel their brains unceasingly to dwell upon their infirmity, subjecting them to foolish fears and apprehesions and erroneous interpretation of trivial transitory symptoms.

These invalids repair to some health resort with the expectation of relief by water, air or some other invisible means. They sit around the hotel office or town, impatiently waiting for the expected relief, which is delayed by reinfection; become despondent, which frequently initiates collapse. Many remain but a short time in any one place, producing a floating, shifting, tubercular population, found principally throughout the west and southeast. They patronize the railroads and hotels, leaving infection possible in all directions. The mental condition of female patients frequently become highly distressing from association, gossip, or ennui.

These strong objections to aggregations of consumptives were revealed to me forcefully while a member of such colonies, in the capacity, of invalid, resulting in some definite conclusions and suggestions for improvement. The substitute for isolation or aggregation may be divided into three classes, the first, a private boarding house or cottage plan, offers a much nearer approach to isolation, and avoids many of the evils of large institutions. The next, a still more promising plan, with almost true isolation, is the ranch life. Thousands of ranchers throughout the arid west will give a comfortable home to invalids, supplying the necessary sterile surroundings, exercise and climate. There should be but one invalid permitted on each ranch. Board and lodging are nominal, no more than eastern rates. Many find employment on stock ranches, because unable to afford residence at a hotel or sanitarium, and are greatly benefited thereby. The third class may be known as "camping" parties, and offers greater inducements than all others. A dry climate being the accepted standard, it is necessary to look southwest or west for it. A dry climate means a great diminution in vegetation. Often absolute deserts greet an outraged, esthetic eye, especially when exhibiting a vigorous sandstorm.

Many of the profession have found serious objection to western plains as an asylum for consumptives,

because sandstorms occur. I believe they are no particular detriment. The sand and fine atmospheric dust is sterilized by sun and pure air, and carries no infection, unless occuring in a large town or city. The thirsty, hungry soil greedily devours all moisture from sputa and other contaminating material, and the almost constant sunshine does the rest. The dry climate permits almost indiscriminate out-door exposure, without deleterious effects. The temperature is equitable as any to be found.

Form a party of four to eight invalids under the supervision of a physician, employ a cook and drivers, purchase all necessary paraphernalia, and leave the towns to lead a nomadic life under canvas, with diversions of hunting and fishing, sure to relieve the mind of morbid occupations, supplying sufficient compulsory exercise to stimulate a wholesome appetite and a rapid improvement in all symptoms, in all reasonable cases. The expenses of such a trip of four or five months will be no more than ordinary western hotel charges, and much less than expenses at some sanitariums and resorts. Much more could be said on this subject of a practical nature.

The dangers of aggregations caused me to adopt the camping plan, resulting in recovery in four or five months. I prolonged my outdoor life, through choice, for over two years. I rented a common farm-wagon and team, and made an extensive trip in western New Mexico, sleeping on the ground at night, preparing my own meals, hunting and fishing when opportunity presented, obtaining constant occupation driving, care of horses and other necessary duties. My next trip was also in a wagon across southern Chihuahua and Durango, Mexico, where our hardships were sometimes pronounced. The following winter was partly spent in the saddle near the summit of the Sierra Madra mountains. The summer of 1894 was devoted to the saddle and wagon, in northern California. The following spring and summer occurred my last wagon trip, from West Port on the Pacific Coast, across California, Nevada, Idaho, the Yellowstone National Park, to Cinnabar, Montana. By this plan I was enabled to move my sanitarium daily; every night found me on sterilized ground, never infected or host to tubercle bacilli, a plan compelling me to *seek* health instead of waiting for her to seek me. I enjoyed to the fullest extent nature's panorama, revealed in daily sections, and the pleasurable excitement of plentiful hunting and fishing, sound sleep and a ravenous appetite. The almost perpetual sunshine, dry air, high altitude, unavoidable exercise and exhilaration were the components of the prescription, causing my own recovery promptly, permiting my subsequent residence in Chicago in the best of health.

This is a prescription eagerly and rapidly assimilated, greatly desired by the healthy, and positively curative in others.

6301 Yale Street.

A FEW INSTANCES OF THE USE OF PROTONUCLEIN IN CONTAGIOUS AND NON-CONTAGIOUS DISEASES.

BY WESLEY G. BAILEY, M.D.

PEKIN, ILL.

This comparatively new substance has played an important rôle in the armamentarium of the up-to-date physician for at least eighteen months or two years. These two years have conclusively proved that protonuclein has come to stay, as its action is not ephemeral; for certain diseases are not the terrors either to the minds of the laity or profession since its introduction. To be practical, it is necessary or usual to illustrate one's points by the citation of cases. We will present a few for your consideration:

Case 1.—Female, aged 5, presented every feature of the clinical aspects of true laryngeal diphtheria (Klebs-Loeffler), which was proven by microscopic diagnosis. This child had been ill three or four days before the physician was summoned; that foul odor so characteristic of the disease permeated the atmosphere of the whole house. Little did the writer think that this child's life could be saved, so livid were the lips, swollen the neck and stertorous the breathing. The vigorous use locally of the *protonuclein special powder* was immediately ordered every half hour; previous to the local use of protonuclein, this little patient could not swallow anything, was fast becoming comatose, and was with difficulty aroused sufficiently to allow the perfect administration of the remedies. After several insufflations of the powder, and during a violent coughing spell, immense pieces of false membrane were thrown out; at this time the internal use of the 3-grain tablets every three hours was commenced. From this time on our patient made a rapid, uneventful recovery.

Case 2.—Female, aged 24, multipara. This case also gave every indication of true Klebs-Loeffler diphtheria, tonsillar and pharyngeal (diagnosis confirmed by culture and microscope). This patient also had chronic Bright's disease, from which she suffered periodically with general edema, etc. Several months previous to the attack of diphtheria, she had suffered as mentioned, and was placed upon the 3-grain protonuclein tablets for three or four months, which was considerable time after the general dropsy had ceased. This patient now thought herself nearly well and discontinued the use of the tablets as above, when she was suddenly stricken with diphtheria; this was several weeks after the discontinuance of the protonuclein tablets. Strange to say, this case, though an adult, was nearly asphyxiated on account of the turgid mucous membrane; just at this time we were summoned in haste; protonuclein again scored a signal victory, after thorough and vigorous use locally and internally. Though on any treatment such a patient could scarcely be strong and well again, yet inside of two weeks our patient was up and attending to light household duties. In this family were two small children, aged respectively 2½ and 4, who were constantly about the room and even slept in the same bed with their mother (the diphtheria case), both before and after the diagnosis was made. We immediately administered to each child a 3-grain tablet of protonuclein every three hours, and they did not contract the disease.

Case 3.—Klebs-Loeffler diphtheria (microscopic diagnosis), male, aged 23. This was a mild case, and under the control of the special powder locally and 3-grain tablets internally, made a complete recovery in eight days.

Case 4.—Streptococcus diphtheria (diagnosis by microscope); male, aged 7. This child has had since its second year similar attacks two or three times yearly. After a thorough application of the special powder locally and 3-grain tablets internally, we recorded a "good recovery," and now, though two years have elapsed since, there has been no return of the disease.

Case 5.—Female, aged 33, primipara, has usually had from one to two attacks of streptococcus diphtheria yearly for a number of years, until the last invasion of nearly two years since; was treated the same as Case 4.

Many more cases of both varieties of diphtheria could be cited, but these given are sufficient to explain our procedures. The beauty and immense value of the above methods in treating diphtheria is, firstly, you can begin exhibiting your remedy at once and be assured it will do no harm; hence, several hours of valuable time is not lost in waiting for a bacteriologist's report, besides, protonuclein will certainly cure both varieties of the scourge, barring possibly bad complications already in progress when the treatment is instituted.

In eczematous affections, or any epidermic (common) disease except scabies, due to an organism, there is in our opinion nothing equal to the external and internal treatment with protonuclein, and occasionally—when the case demands it—the hypodermic exhibition of the special powder (locally and hypo-

dermatically we always use protonuclein special powder in varying strength). No cases of the above varieties are cited, because their histories are all too well known; we have treated many such, and all successfully but one, and it was an old chronic case, of eczema from rhus poisoning, and did not continue the remedy long enough to decide for or against it.

One case of tubercular dermatitis came under my care; it was treated with daily inunctions (25 per cent. lanolin ung.) and hypodermic, daily, injections of ten to fifteen minims of the standard solution (10 grains special powder to drachms 1 of aqua dest., at 98 degrees F.) and a 3-grain tablet every three hours internally; after several weeks' treatment the diseased surface became smaller and smaller and healthy spots could be seen surrounded by the diseased tissues. At this time we lost sight of the case.

In chronic Bright's disease protonuclein is, therapeutically, without a peer in the opinion of the writer; eleven cases have been treated with it in our experience, and while we know the inevitable end of such cases is an untimely death, yet we are certain that in a number of instances, life has not only been made easier, by insuring more nearly perfect tissue metamorphosis, but actually prolonged by its use extended over a period of many months. We respectfully ask each physician reading this to calmly think what "more nearly perfect tissue metamorphosis" means to a sufferer from chronic Bright's disease, and then ask himself if this can be performed as well with any other remedy.

In tubercular joint affections we have used protonuclein in but one case, and that has the following history: Mother died of pulmonary tuberculosis, and maternal grandfather though meeting death by an accident was in the last stage of phthisis pulmonalis; paternal grandfather died of tubercular phthisis; child, a male, at the time of the first exhibition to him of protonuclein, was 5½ years old, this was two years ago; at 2 years of age the patient had scarlatina followed by infantile paralysis of the left thigh and leg, subsequently tubercular hip-joint and ankle disease developed in the affected leg; protonuclein in 3-grain tablets was given every three hours together with cod-liver oil. Early in the spring of 1896 the hip and ankle required operative measures, and was accordingly referred to Dr. J. W. Hairgrove of Jacksonville, Ill., for operation; Dr. Hairgrove has kindly furnished us with his notes while the case was in his care. We append them below:

"L. A., entered May 22, 1896. Operation under ether narcosis, May 25, followed by but slight shock. Tuberculous abscess extending around the ankle curetted and through gauze drain inserted. Large abscess on the inner anterior aspect of the thigh opened and curetted, counter opening over the head of the femur and through gauze drain inserted. After-treatment was antiseptic irrigations through and through with gauze packing. Temperature ranged about 99.5 preceding and for some time after the operation.

"On June 14, was noted some swelling around the ankle. It is evident that some irritation still exists about the epiphyseal ends of the tibia and fibula. However, nothing operative was done until July 7 so that the patient might have an enjoyable holiday on the 4th of July.

"At the operation three incisions were made about the ankle, some curetting but no pus was discovered. The discharging fistula at the thigh was widened to improve drainage and packed with gauze. Henceforth the discharge rapidly decreased and the patient went home on July 23.

"During the whole course of treatment he took protonuclein and cod-liver oil.

"I regret that I am unable to give more definite notes of the case. While there was no tubercle bacilli discovered at any time, we must remember how difficult it is to find them in thin pus; it can generally be done by the most patient and exhaustive effort only."

[signed] J. W. H.

The little fellow is now plump and hearty, no swelling or tenderness of ankle or hip, and though the affected leg is some inches shorter than the other he can use the short one to support his weight without difficulty; he is attending public school and is anything but a picture of tuberculosis.

We claim that such results are unattainable without protonuclein. We further wish to say the child has not taken cod-liver oil for six months, but has been constantly on protonuclein.

Three cases of scarlatina have lately been under our care and throughout the disease were given nothing but protonuclein, with the exception of a simple diuretic on two days only. Two of the cases were light, the other developed a severe cervical lymphadenitis, which under the vigorous use locally (in throat) and tablets internally, was rapidly disappearing, when, at this time we left directions and ceased to make visits; we learned from the grandfather that the mother of the child ceased the insufflations when our visits ceased; the gland again rapidly increased in size and was opened several days later by another physician. In this same family were three other children and four adults, who were immediately put upon one 3-grain tablet every three hours; none of these last seven people mentioned contracted the disease.

We can not help commenting that no better prophylactic in acute infectious diseases is known; and, further, that the scope of usefulness to which protonuclein can be put is almost unlimited.

HOW CAN WE INCREASE THE THERAPEUTIC RELIABILITY OF MEDICINAL AGENTS?

BY E. MARK HOUGHTON, M.D.
DIRECTOR OF PHARMACOLOGICAL LABORATORY, PARKE, DAVIS & CO.
DETROIT, MICH.

"Without pharmacologic knowledge, the application of remedies must ever be attended with the greatest uncertainty." As a pure science, pharmacology has taken rapid strides during the past few years; but to the physician, by elucidating the manner in which the functions of the various organs of the body may be influenced by the therapeutic agents at his disposal, it has given the greatest gain. Empiricism is disappearing, and ultimately we shall realize the hope of the centuries and medicine may justly claim a position among the exact sciences.

It is not my purpose to show what pharmacology has done in the past, but to call attention to some of the ways in which the science may be of still further service in the future. A physician may be ever so well versed in therapeutics, but if his prescriptions are filled with inert drugs, or drugs varying in strength, his efforts may be useless, or even dangerous. In the past the pharmacist has greatly aided our efforts by improving the preparation of the various remedies. But the time will soon come when he should be held responsible not only for the chemic and botanic purity of his preparations, but also for the physiologic activity of those important medicinal agents which can not be standardized by chemic methods.

I hear some one say this is impracticable, since pharmacists have not been properly educated to carry

out this work; besides, the expense is so great that they can not afford to do it. True, but today nearly all pharmacists buy the bulk of their preparations from some large manufacturing house, which can afford to employ a properly qualified person to make the examinations. Since the retail pharmacist can not do this testing, we should see to it that he supplies to our patients the preparations of some house that does determine the pharmacologic properties of its products. Or, where the retailer prefers to make his own tinctures, fluid extracts, etc., he should obtain his supplies of crude material from such houses as are willing to guarantee the activity of their drugs. It is much more important to the physician that he have a physiologically active preparation than an elegant pharmaceutic preparation. The ideal preparation is the one that possesses the properties of activity and elegance in the highest degree.

Probably to the physician the most important duty of the pharmacologist in his relation to the manufacturing pharmacist is the examination of the crude drugs and active principles before they are made up into fluid extracts, tinctures, pills, etc. Only those crude drugs and active principles should be tested physiologically which can not be assayed by chemic means. But there are quite a number of the most important medicinal agents that the chemist must at present pass, without testing, as no characteristic reactions have been worked out for them. Examples will best illustrate this point. As is well known, ergot, the sheet anchor of the obstetrician in so many hours of peril, loses much of its activity in a comparatively short time after being harvested, and if kept under certain conditions may soon become entirely inert, or if the crude drug was good when it came to the manufacturer the menstruum used may have been such that the more important constituents were left in the improperly exhausted drug; consequently the physician is never quite sure whether the preparation he carries in his obstetric bag can be relied upon to aid him in stimulating an exhausted uterus in a difficult labor, or in checking a much-dreaded post-partum hemorrhage. How much better it is for all concerned to test the ergot physiologically, rejecting the drug if found inert. Then, to complete the precautions, the finished product should be again tested to make sure that it shows the active properties manifested by the crude drug.

Out of twenty-seven samples of crude Indian cannabis, of excellent physical appearance, recently examined by the writer, only thirteen proved to be active when administered to animals; and of a large number of preparations tested, at least one-half were inert. Is it any wonder that physicians have come to believe that hemp is one of the most unreliable of drugs? Or that we occasionally have alarming symptoms following its administration? Digitalis leaves and strophanthus seeds are other good illustrations, and many other examples might be cited if space permitted.

The demand for the active constituents of vegetable drugs is prompted by the physician's desire to administer his potions either in small doses per os or with the hypodermic needle. But many of these active principles, glucosids, alkaloids and others, have thus far eluded the analytic chemist in his attempts to identify them and determine their purity. Since the chemist can not, the pharmacologist ought by all means to examine them before they are made up into preparations for the physician. Neglect this precaution and the manufacturer may, perhaps, obtain a lot of inferior or worthless stock, contaminated possibly by some decomposition product or foreign substance whose action is directly antagonistic to that desired. Of four samples of strophanthin recently tested, three of which were supposed to be chemically pure, there was found such wide variation in activity that one was ninety times as fatal to animals as another. The strength of the remaining two varied between the above limits. No two samples were even approximately the same in strength. What a chance for a sudden, fatal termination of an apparently improving heart case!

Perhaps the most important work of the pharmacologist in relation to medicine is the investigation of new remedies. Synthetic chemistry has developed so rapidly during the past few years that new compounds for medicinal use are constantly being brought to the notice of the medical profession by traveling men, who strive to induce the physician to use the latest hypnotic, antipyretic, etc., promising him that the result will be most gratifying. But it behooves the honest physician to beware of using new remedies until something is known of their physiologic action. When he ascertains the functional changes brought about by the introduction of the drug into the animal economy, he can rationally begin the use of the remedy in his practice, with considerable promise of success.

The examination of medicinal plants for active constituents is greatly facilitated by physiologic testing of the residues obtained by chemic manipulations. By chemic means we can not tell whether a substance crystallizing in an alcoholic extract of a plant is the active constituent of that plant, or whether the amorphous substance dissolved by ether is the principle sought, but we can tell by physiologic methods when we have a substance representing the activities of the crude drug, whether it be crystalline or amorphous—which is the fact of real importance to the physician. Only a few years ago one of Germany's most renowned chemists isolated a beautiful white scillein, which was supposed to be the active constituent of squill. But since then it has been found to be entirely inert, and that the really important constituent of squill is a brown resin-like substance possessing in a very marked degree the characteristic action of the digitalis group.

Heretofore it has been the custom of manufacturing houses, when dealing with a new plant believed to possess medicinal properties of value, to make a fluid extract or some other preparation of the crude drug, and send it out to clinicians, at great expense, in the hope that it might prove of value. How much better it is to have the physiologic properties of the plant examined at the outset! If found to be inactive, the drug may be rejected, thus saving a large item of expense to the manufacturer and much disappointment to the physician and his patient; while if the plant is of value and the physician knows what its effects are upon the various organs of the body, he can use it intelligently, with a good prospect of success. Then, too, human beings are not so recklessly experimented upon, the lives of a few animals being jeopardized in place of so many patients. We can never analyze the action of a drug on the various organs of the human body with such precision as we can on the lower animals, but clinical knowledge obtained after we have a right conception of the physiologic action of the agent used is of very great importance in determining the value of a given remedy.

dermatically we always use protonuclein special powder in varying strength). No cases of the above varieties are cited, because their histories are all too well known; we have treated many such, and all successfully but one, and it was an old chronic case, of eczema from rhus poisoning, and did not continue the remedy long enough to decide for or against it.

One case of tubercular dermatitis came under my care; it was treated with daily inunctions (25 per cent. lanolin ung.) and hypodermic, daily, injections of ten to fifteen minims of the standard solution (10 grains special powder to drachms 1 of aqua dest., at 98 degrees F.) and a 3-grain tablet every three hours internally; after several weeks' treatment the diseased surface became smaller and smaller and healthy spots could be seen surrounded by the diseased tissues. At this time we lost sight of the case.

In chronic Bright's disease protonuclein is, therapeutically, without a peer in the opinion of the writer; eleven cases have been treated with it in our experience, and while we know the inevitable end of such cases is an untimely death, yet we are certain that in a number of instances, life has not only been made easier, by insuring more nearly perfect tissue metamorphosis, but actually prolonged by its use extended over a period of many months. We respectfully ask each physician reading this to calmly think what "more nearly perfect tissue metamorphosis" means to a sufferer from chronic Bright's disease, and then ask himself if this can be performed as well with any other remedy.

In tubercular joint affections we have used protonuclein in but one case, and that has the following history: Mother died of pulmonary tuberculosis, and maternal grandfather though meeting death by an accident was in the last stage of phthisis pulmonalis; paternal grandfather died of tubercular phthisis; child, a male, at the time of the first exhibition to him of protonuclein, was 5½ years old, this was two years ago; at 2 years of age the patient had scarlatina followed by infantile paralysis of the left thigh and leg, subsequently tubercular hip-joint and ankle disease developed in the affected leg; protonuclein in 3-grain tablets was given every three hours together with cod-liver oil. Early in the spring of 1896 the hip and ankle required operative measures, and was accordingly referred to Dr. J. W. Hairgrove of Jacksonville, Ill., for operation; Dr. Hairgrove has kindly furnished us with his notes while the case was in his care. We append them below:

"L. A., entered May 22, 1896. Operation under ether narcosis, May 25, followed by but slight shock. Tuberculous abscess extending around the ankle curetted and through gauze drain inserted. Large abscess on the inner anterior aspect of the thigh opened and curetted, counter opening over the head of the femur and through gauze drain inserted. After-treatment was antiseptic irrigations through and through with gauze packing. Temperature ranged about 99.5 preceding and for some time after the operation.

"On June 14, was noted some swelling around the ankle. It is evident that some irritation still exists about the epiphyseal ends of the tibia and fibula. However, nothing operative was done until July 7 so that the patient might have an enjoyable holiday on the 4th of July.

"At the operation three incisions were made about the ankle, some curetting but no pus was discovered. The discharging fistula at the thigh was widened to improve drainage and packed with gauze. Henceforth the discharge rapidly decreased and the patient went home on July 23.

"During the whole course of treatment he took protonuclein and cod-liver oil.

"I regret that I am unable to give more definite notes of the case. While there was no tubercle bacilli discovered at any time, we must remember how difficult it is to find them in thin pus; it can generally be done by the most patient and exhaustive effort only."

[signed] J. W. H.

The little fellow is now plump and hearty, no swelling or tenderness of ankle or hip, and though the affected leg is some inches shorter than the other he can use the short one to support his weight without difficulty; he is attending public school and is anything but a picture of tuberculosis.

We claim that such results are unattainable without protonuclein. We further wish to say the child has not taken cod-liver oil for six months, but has been constantly on protonuclein.

Three cases of scarlatina have lately been under our care and throughout the disease were given nothing but protonuclein, with the exception of a simple diuretic on two days only. Two of the cases were light, the other developed a severe cervical lymphadenitis, which under the vigorous use locally (in throat) and tablets internally, was rapidly disappearing, when, at this time we left directions and ceased to make visits; we learned from the grandfather that the mother of the child ceased the insufflations when our visits ceased; the gland again rapidly increased in size and was opened several days later by another physician. In this same family were three other children and four adults, who were immediately put upon one 3-grain tablet every three hours; none of these last seven people mentioned contracted the disease.

We can not help commenting that no better prophylactic in acute infectious diseases is known; and, further, that the scope of usefulness to which protonuclein can be put is almost unlimited.

HOW CAN WE INCREASE THE THERAPEUTIC RELIABILITY OF MEDICINAL AGENTS?

BY E. MARK HOUGHTON, M.D.

DIRECTOR OF PHARMACOLOGICAL LABORATORY, PARKE, DAVIS & CO.
DETROIT, MICH.

"Without pharmacologic knowledge, the application of remedies must ever be attended with the greatest uncertainty." As a pure science, pharmacology has taken rapid strides during the past few years; but to the physician, by elucidating the manner in which the functions of the various organs of the body may be influenced by the therapeutic agents at his disposal, it has given the greatest gain. Empiricism is disappearing, and ultimately we shall realize the hope of the centuries and medicine may justly claim a position among the exact sciences.

It is not my purpose to show what pharmacology has done in the past, but to call attention to some of the ways in which the science may be of still further service in the future. A physician may be ever so well versed in therapeutics, but if his prescriptions are filled with inert drugs, or drugs varying in strength, his efforts may be useless, or even dangerous. In the past the pharmacist has greatly aided our efforts by improving the preparation of the various remedies. But the time will soon come when he should be held responsible not only for the chemic and botanic purity of his preparations, but also for the physiologic activity of those important medicinal agents which can not be standardized by chemic methods.

I hear some one say this is impracticable, since pharmacists have not been properly educated to carry

out this work; besides, the expense is so great that they can not afford to do it. True, but today nearly all pharmacists buy the bulk of their preparations from some large manufacturing house, which can afford to employ a properly qualified person to make the examinations. Since the retail pharmacist can not do this testing, we should see to it that he supplies to our patients the preparations of some house that does determine the pharmacologic properties of its products. Or, where the retailer prefers to make his own tinctures, fluid extracts, etc., he should obtain his supplies of crude material from such houses as are willing to guarantee the activity of their drugs. It is much more important to the physician that he have a physiologically active preparation than an elegant pharmaceutic preparation. The ideal preparation is the one that possesses the properties of activity and elegance in the highest degree.

Probably to the physician the most important duty of the pharmacologist in his relation to the manufacturing pharmacist is the examination of the crude drugs and active principles before they are made up into fluid extracts, tinctures, pills, etc. Only those crude drugs and active principles should be tested physiologically which can not be assayed by chemic means. But there are quite a number of the most important medicinal agents that the chemist must at present pass, without testing, as no characteristic reactions have been worked out for them. Examples will best illustrate this point. As is well known, ergot, the sheet anchor of the obstetrician in so many hours of peril, loses much of its activity in a comparatively short time after being harvested, and if kept under certain conditions may soon become entirely inert, or if the crude drug was good when it came to the manufacturer the menstruum used may have been such that the more important constituents were left in the improperly exhausted drug; consequently the physician is never quite sure whether the preparation he carries in his obstetric bag can be relied upon to aid him in stimulating an exhausted uterus in a difficult labor, or in checking a much-dreaded post-partum hemorrhage. How much better it is for all concerned to test the ergot physiologically, rejecting the drug if found inert. Then, to complete the precautions, the finished product should be again tested to make sure that it shows the active properties manifested by the crude drug.

Out of twenty-seven samples of crude Indian cannabis, of excellent physical appearance, recently examined by the writer, only thirteen proved to be active when administered to animals; and of a large number of preparations tested, at least one-half were inert. Is it any wonder that physicians have come to believe that hemp is one of the most unreliable of drugs? Or that we occasionally have alarming symptoms following its administration? Digitalis leaves and strophanthus seeds are other good illustrations, and many other examples might be cited if space permitted.

The demand for the active constituents of vegetable drugs is prompted by the physician's desire to administer his potions either in small doses per os or with the hypodermic needle. But many of these active principles, glucosids, alkaloids and others, have thus far eluded the analytic chemist in his attempts to identify them and determine their purity. Since the chemist can not, the pharmacologist ought by all means to examine them before they are made up into preparations for the physician. Neglect this precaution and the manufacturer may, perhaps, obtain a lot of inferior or worthless stock, contaminated possibly by some decomposition product or foreign substance whose action is directly antagonistic to that desired. Of four samples of strophanthin recently tested, three of which were supposed to be chemically pure, there was found such wide variation in activity that one was ninety times as fatal to animals as another. The strength of the remaining two varied between the above limits. No two samples were even approximately the same in strength. What a chance for a sudden, fatal termination of an apparently improving heart case!

Perhaps the most important work of the pharmacologist in relation to medicine is the investigation of new remedies. Synthetic chemistry has developed so rapidly during the past few years that new compounds for medicinal use are constantly being brought to the notice of the medical profession by traveling men, who strive to induce the physician to use the latest hypnotic, antipyretic, etc., promising him that the result will be most gratifying. But it behooves the honest physician to beware of using new remedies until something is known of their physiologic action. When he ascertains the functional changes brought about by the introduction of the drug into the animal economy, he can rationally begin the use of the remedy in his practice, with considerable promise of success.

The examination of medicinal plants for active constituents is greatly facilitated by physiologic testing of the residues obtained by chemic manipulations. By chemic means we can not tell whether a substance crystallizing in an alcoholic extract of a plant is the active constituent of that plant, or whether the amorphous substance dissolved by ether is the principle sought, but we can tell by physiologic methods when we have a substance representing the activities of the crude drug, whether it be crystalline or amorphous—which is the fact of real importance to the physician. Only a few years ago one of Germany's most renowned chemists isolated a beautiful white scillein, which was supposed to be the active constituent of squill. But since then it has been found to be entirely inert, and that the really important constituent of squill is a brown resin-like substance possessing in a very marked degree the characteristic action of the digitalis group.

Heretofore it has been the custom of manufacturing houses, when dealing with a new plant believed to possess medicinal properties of value, to make a fluid extract or some other preparation of the crude drug, and send it out to clinicians, at great expense, in the hope that it might prove of value. How much better it is to have the physiologic properties of the plant examined at the outset! If found to be inactive, the drug may be rejected, thus saving a large item of expense to the manufacturer and much disappointment to the physician and his patient; while if the plant is of value and the physician knows what its effects are upon the various organs of the body, he can use it intelligently, with a good prospect of success. Then, too, human beings are not so recklessly experimented upon, the lives of a few animals being jeopardized in place of so many patients. We can never analyze the action of a drug on the various organs of the human body with such precision as we can on the lower animals, but clinical knowledge obtained after we have a right conception of the physiologic action of the agent used is of very great importance in determining the value of a given remedy.

Until a few years ago nearly all the work done in pharmacology was carried out in the laboratories of the universities of Europe. Recently several leading universities of the United States have fitted up laboratories for the investigation of pharmacologic questions, and for giving the students practical instruction in the action of the more important remedies upon the various tissues of the animal body. To the University of Michigan belongs the credit of being the first institution in the world to give a laboratory course of instruction in pharmacology to undergraduate medical students. Undoubtedly this is a movement in the right direction, and will add to the ranks of the profession year by year men who are anxious to use only those drugs whose physiologic action is known. While we can expect the college workers to add greatly to our knowledge of the action of new drugs and explain the pharmacology of the old ones whose action is not clearly understood, we can not expect them to do the systematic routine work necessary to prevent the manufacturer from unconsciously placing on the market poor or worthless preparations. Neither can the manufacturer rely upon their aid to assist him in materially improving his methods of preparing of his fluid extracts, pills, tablets, etc., a work which demands at each step the careful scrutiny of a practical chemist, frequently supplementing his tests by pharmacologic reactions and not allow the manufacturer to go on year after year, sacrificing physiologic activity to pharmaceutic appearances, as has frequently been done. It should be possible for the workers in a manufacturing concern to work shoulder to shoulder with the colleges, and the result will surely be for the advancement of science and the well being of humanity.

We can not expect too much at first, as very little work has yet been done on quantitative methods of determining the physiologic activities of drugs by reactions on animal tissues alone, and we can never expect the results to be as exact as those of chemistry, but we can expect that a great deal may be done to lessen the uncertainty attending the administration of some of our most important medicinal agents.

COD-LIVER OIL A TIME-TESTED REMEDY.

BY FRANK WEBSTER JAY, M.D.

INSTRUCTOR IN SURGERY, RUSH MEDICAL COLLEGE; ATTENDING SURGEON LAKESIDE HOSPITAL.

CHICAGO.

If cod-liver oil has been able to maintain its position as a remedial agent from a time "beyond which the memory of man runneth not to the contrary," its present popularity certainly has not resulted from any lack of sharp and sustained controversy. While the literature commending its utility in a wide variety of disorders is very copious, there has likewise been an abundance of articles, papers and discussions, which contended that cod-liver oil was merely a therapeutic fetich; that it possessed no virtue that did not likewise reside in all forms of food fat; that it was no more readily assimilable than good butter; that, indeed, it was a positive bane to the patient in its loathsome taste, its disturbance of digestion, its provocation of biliousness, etc.

In my opinion these dissenting views constitute a a most erroneous and deplorable heresy. Quite apart from the colossal volume of clinical testimony which bears witness to the real, genuine and positive utility of cod-liver oil in all wasting diseases, my own experience in practice sustains the view that cod-liver oil is an agent of incontestable value when intelligently, perseveringly administered. And yet such therapeutic heresies are far from being an unmixed evil. They stimulate thought. They arouse the physician out of any propensity toward routine-prescribing. Our most cherished convictions are all the better for an occasional assault, since we are thus led to examine our ground, weigh our evidence, review the basis of our belief, and place on a substantial foundation of reason and experience the views which we formerly accepted on tradition or authority.

Manifestly, the wide-spread employment of cod-liver oil has not been restricted by the assaults to which I have referred. Not alone in phthisis, but also in a wide category of other disorders, cod-liver oil continues to render substantial service, and beyond doubt it will continue to prove one of the most efficient remedies at the prescriber's command, despite any lack of unanimity on theoretical grounds.

It is commonly supposed that the general employment of cod-liver oil dates from the publication of Professor Bennett's great work in 1841. This is an error. Professor Bennett did, indeed, lend the weight of his authority to a *revival* of cod-liver oil, but it had been previously used in England in the treatment of phthisis; and long before it had been recommended for the treatment of scrofulous and rheumatic diseases. As early as 1771 Dr. Percival had introduced cod-liver oil as a remedy for chronic lithiasis, and it was employed for this purpose at the Manchester Infirmary during a number of years. The fishermen of Norway have from a remote period used it both externally and internally for rheumatic affections. Other investigators soon demonstrated that this remedy enriches the blood, multiplies the number of red corpuscles and produces an incredible increase in weight—an increase which is frequently out of all proportion to the small amount of oil ingested.

The value of cod-liver oil in phthisis pulmonalis is too old and widely known to need comment. Nelligan remarks in his work on Materia Medica, "I do not think I am asserting too much for it when I state that its use has to some extent removed tubercular consumption form the list of incurable diseases." Thousands of practitioners will bear out this remark, and a lesser number will join with this author in the regret that the conspicuous success of cod-liver oil in phthisis has caused the profession to lose sight of its utility in chronic rheumatism.

Desiring not to dwell unduly on the diverse applications of this familiar remedy, I content myself with the statement that cod-liver oil is productive of very great service in the treatment of many forms of neuralgia, tuberculous abscesses and chronic arthritis, rickets, strumous ophthalmia, obstinate cutaneous disorders, in chronic ozena, otorrhea aud ophthalmia. Among other affections, I lay particular stress on anemia, from whatever cause, and on the obstinate constipation of infants. Brilliant results are occasionally obtained in the tubercular affections of children, especially in glandular enlargements.

For the surgeon cod-liver oil has its greatest value in tubercular affections in association with the indicated surgical treatment of the case. It is an agent which has a curative influence in tubercular disease. Not as a specific, but simply from its ability to increase the body fat, which as Butler says, is a normal and necessary constituent of the body. It is the fuel used

to supply force, and those tissues and organs which are the most energetic require the most fat. The proportion of fat in the body must be maintained in order that the various cells of the body may possess sufficient vitality to withstand by physiologic resistance the encroachments of disease and the invasion of pathogenic microörganisms. Energy is certainly what is wanted by the cells in tubercularized tissue. In tissue infected by tubercle bacilli there is a struggle between the bacteria and the body cells; a struggle which, unless the diseased tissue is eradicated by operative procedure will end in victory for the bacilli and a progressive disease or a victory for the body cells and a cure. If the bacilli exercise their specific properties, the cells of the infected granulation tissue will undergo coagulation necrosis, caseation and liquefaction. If the fixed tissue cells are able to withstand the influence of the bacteria, they can win the battle either directly by destruction of the bacilli by phogocytosis (in which they are aided by the leucocytes), or the cells which have become more or less atypically embryonal under the influence of the bacilli may undergo fibrillation and the infected granulation tissue develop into cicatricial tissue, and a cure be accomplished by encapsulation. A remedy to be of service in tuberculosis must either destroy the essential cause of the disease, the tubercle bacilli, or aid the body cells in their struggle by inhibiting the pathogenic powers of the bacteria or stimulating the body cells to increased power of resistance. All local treatment (short of complete eradication of diseased tissue by operative measures) acts in one or more of these ways. Rest, iodoformization, ignipuncture, injection of chlorid of zinc solutions, Bier's passive congestion, etc., all owe their value to their inhibiting or destroying the bacilli or stimulating the cells to increased power of development or both. Cod-liver oil acts in aiding a spontaneous cure by supplying energy to the body cells in this most important struggle.

The guiding fact in the administration of cod-liver oil should be its indisputable influence on the processes of nutrition. Hence, whenever deficient or disordered nutrition prevails, cod-liver oil is presumptively indicated. Bennett regarded the agent as a stimulant to the lymphatic glands and vessels, increasing the activity of the capillary system; and "by its action on the former the process of assimilation is facilitated and the appetite increased. The quality of the blood is thus improved and the different organs of the body become better nourished and receive more *turgor vitalis*."

It is my firm conviction that much of the dissatisfaction which we hear expressed respecting cod-liver oil is due to neglect of certain simple, practical, yet indispensable precautions in its administration. I know of no remedy which is more likely to disappoint those who trust to it, unless they are careful in respect to its quality and purity, the dose and the time of giving.

Dose.—This should rarely exceed a tablespoonful twice or thrice daily. Larger quantities either derange the stomach or liver, or else some of the oil passes, unabsorbed, by the bowels. Indeed, I should counsel the patient to begin on a teaspoonful dose, two or three times a day, increasing the quantity very slowly as tolerance is manifested. Impatience or undue haste in this respect is bound to defeat its own purpose.

Time of administration.—This varies with different patients. The rule is: Take the oil just before or just after eating. Many declare that the most suitable time for them is in the middle of a meal. Others, again, suffer no annoyance from doses administered midway between meals.

Quality—The best and purest oil should be obtained, since the inferior oils are offensive in odor and taste. I thoroughly approve of a good emulsion when the microscope shows that it contains the *entire oil* in finely divided globules, and when I am satisfied that the percentage of oil claimed by the maker is present in the emulsion. Emulsification, moreover, forms a necessary step in the digestion of the fat, and the ready-made emulsion reduces the burden of labor devolving on the enfeebled digestive organs. The product which has given entire satisfaction in my practice, and to which I pin my confidence, is the egg emulsion of cod-liver oil. This product does not deteriorate, is most satisfactory in taste and flavor, and contains, by volume, full 40 per cent. of the entire oil. The absence of gum arabic, Irish moss, or the other emulsifying agents commonly used, is assuredly not the least of its advantages.

I have no faith in the so-called wines of codliver oil, containing, not the whole oil, but an extract of the alleged alkaloids. As urged by Professor Winter, cod-liver oil is a most complex body. Its beneficial properties reside in the aggregate of its constituent elements, and it is a piece of cruel jugglery to proffer a patient a part in lieu of the whole. The deception pointed out by Professor Hare—the entire absence of cod-liver oil from some of the advertised emulsions—merits the severest reprobation of the profession. There should be a fixed standard for emulsions, and the physician should have some positive assurance that the percentage asserted on the label is actually present in the contents of the bottle.

SLOUGHING MYOMA OF THE PUERPERAL UTERUS.

BY PALMER FINDLEY, M.D.

CLINICAL INSTRUCTOR OF GYNECOLOGY NORTHWESTERN UNIVERSITY MEDICAL SCHOOL.

CHICAGO, ILL.

The controversy so long waged as to whether myoma uteri is a cause or an effect of sterility recalls the proverbial query—"which came first the hen or the egg." Undoubtedly in not a small percentage of cases sterility antedates the appearance of myoma, but that this is not the rule will appear in the statistics reported by Playfair and Allbutt, who found in 2,035 cases of myoma uteri collected by Schroeder, Wenkel, West, McClintock and others absolute sterility in 621 cases or about 30 per cent., a percentage fully double that of the average sterility in women. Then again we have the statistics of Wenkel and Susserot,[1] who reported ninety-nine cases of women with myoma uteri who gave birth to children with an average of 2.8 children to the mother or a little more than one-half the average of children to the mothers of that locality. These statistics would seem to justify the statement made by Hermann J. Boldt[2] that "We usually see it noted that sterility is an etiological factor, but the correct statement would be that fibro-myomata are conducive to sterility." In the experience of Mathew D. Mann[3] sterility is more fre-

1 Inaug. Dissert. Rostock, 1870.
2 Clinical Gynecology. Keating and Coe. Page 561.

quently the cause of the new growth. He writes: "I think it will be found that the larger number of fibroids and myomas occur in women who have either born no children or have only born one or two and these at a period remote from the occurrence of the tumor." He gives as his reasons for this anomalous tendency on the part of the uterus that during pregnancy the uterus has the power of rapid increase in size. If this inherent disposition to grow is not afforded an opportunity by the event of pregnancy it may then be manifest in an irregular atypical growth.

Fortunately it is a comparatively rare event for pregnancy to complicate myoma uteri. This is particularly true of the submucous variety, because of the mechanical interference by the growth and the almost uniform presence of chronic endometritis which together with the new growth makes an unfavorable nidus for the development of the ovum. This is true in a lesser degree in the interstitial and to a still less degree in the subperitoneal myomata.

The effect of myoma upon pregnancy largely depends upon the size and location of the growth. Submucous myoma whether large or small constitutes a serious complication of pregnancy by interfering with the expulsion of the fetus and placenta, by causing irregular uterine hemorrhages, by the frequency with which such growths become infected resulting in general sepsis and by bringing about premature labor and abortion. The same to a lesser degree may be said of interstitial myoma. Subserous growths rarely become infected, do not usually cause hemorrhages and when small may not influence the course of pregnancy or labor, but when large and rapidly growing they may seriously interfere from increased intrapelvic and intra-abdominal pressure and by causing irregular uterine contractions. Pozzi quotes 53 per cent of mortality in pregnancy complicated by myoma. On the other hand it is of interest to note the influence of pregnancy upon uterine myoma. Little or no increase in the size of the growth may be observed during pregnancy,and atrophy even to complete disappearance of the tumor is known to take place during the time of puerperal involution. However, it is the rule for the new growth to rapidly increase in size during the development of the gravid uterus. This increase in the size of the tumor is due to the hypertrophy of the essential cell elements of the growth, which is an analogous process to the physiologic hypertrophy of the gravid uterus, also to the edema caused by the obstructed blood supply of the growth. The myoma together with the gravid uterus may tax the accommodation of the abdominal cavity to the utmost. When the tumor becomes fixed in the pelvic cavity it may prevent the abdominal evolution of the uterus. Such an incarcerated tumor sometimes rises spontaneously into the abdominal cavity permitting pregnancy to progress without further interference. Further it is sometimes possible to dislodge the growth by bimanual manipulation. *Myomata are liable to infection after abortion or labor.* This predisposition is accounted for by the low vitality of their tissues rendering them especially susceptible to bacterial infection. This is particularly true of submucous pedunculated myomata. The gangrenous process begins in the periphery of the growth and invades the interior. Orthmann[4] performed an unsuccessful laparotomy upon a case of sloughing fibroid following abortion in which the gangrenous process involved the entire thickness of the uterine wall, causing general suppurative peritonitis. The dangers from sepsis are much greater in the presence of submucous myomata because of the difficulty in delivering the placenta, which is so frequently retained, many become infected and in turn infect the new growth. The mortality of cases of infected myoma complicating pregnancy is so great where there has been no surgical interference that it becomes the duty of the attending physician in such cases to hold himself in readiness to resort to operative measures at the first intimation of infection. Such measures should always consist in the enucleation of the infected growths where possible, the complete removal of all retained products of conception and the sterilization of the uterine canal with antiseptic intrauterine douches. As a last resort the uterus and infected tumors must be sacrificed. Of 597 cases of uterine myoma complicating pregnancy collected by Stavely 220 died, a mortality of 37 per cent. and of this number 15 per cent. aborted with a mortality of 12 per cent. How many of these myomata were sloughing is not known. From these statistics we might justly infer that in all cases of myoma uteri complicated by pregnancy the safest procedure would be to induce abortion. By so doing the growth will be prevented from increasing in volume as it commonly does in pregnancy, the serious complications of labor will be avoided and the liability to infection will be reduced to the minimum if abortion is induced within the first three months of pregnancy. As argument against this radical prophylactic measure may be mentioned first, the occasional disappearance of uterine myoma after pregnancy; Pozzi writes of a case in which he observed a myoma increase to double its original size during the course of pregnancy; labor progressed normally and was followed by complete disappearance of the growth; second, the frequency with which they in no way interfere with the course of pregnancy; third, tumors which are so fixed in the pelvic cavity and of such size as to appear to offer a formidable resistance to the development of the gravid uterus and to the process of labor will sometimes spontaneously or by bimanual manipulation rise into the abdominal cavity and no longer interfere with pregnancy or labor; fourth, the results of operations upon the septic puerperal uterus have not been encouraging even in the hands of our best operators. The following case occurred in the service of the writer while resident gynecologist of the Cook County Hospital.

A negress about 30 years of age was brought to the Cook County Hospital in the patrol wagon. She gave the history of having a criminal abortion performed upon her a few days previous. She was then in the fourth month of pregnancy. Two days later she had a chill followed by a rapid rise of temperature which continued to increase to the time of admission to the hospital. On examination after admission the pulse was 140, temperature, 103 degrees F.; there was an offensive, bloody, opaque uterine discharge; and the abdomen tender to pressure and tympanitic. Chloroform was given for the purpose of making a bimanual examination and of exploring the uterine cavity. The curette was introduced with difficulty because of the tortuous uterine canal made so by the presence of two submucous myomas bulging from the left uterine wall into the uterine cavity. The placenta was found retained and sloughing. A portion of it was removed by the curette, it being impossible to remove all because of the obstructing fibroids. The uterine cavity was then irrigated with 1-4000 bichlorid of mercury solution followed by sterilized water. An attempt should have been made to enucleate the fibroids through the vagina after which the uterine cavity could have been thoroughly emptied and disinfected, but the patient refused to have further operative interference. Accordingly nothing further could be done than to

[3] American Gynecological and Obstetrical Journal for April, 1896.
[4] Centr. f. Gyn., 1886, p. 737.

give frequent intrauterine douches and supportive remedies. Three days after admission to the hospital one of the fibroids was spontaneously expelled; it was about two inches in diameter and gangrenous. The expulsion was followed by a chill and rise of temperature. Two days later a second and smaller fibroid was expelled spontaneously and again followed by a chill and rise of temperature. The abdomen became enormously distended. In the delirium which rapidly followed the patient asked that an operation might be performed but the pulse was now too weak and rapid to be counted; and collapse was soon followed by death. Postmortem findings included a large soft uterus; the locations of the submucous growths were marked by sloughing cavities extending deep into the wall of the uterus. There was double pyosalpinx and general suppurative peritonitis. The streptococcus was found in the uterine wall, the pus tubes, peritoneal cavity and thrombosed pelvic veins.

In this case, had the patient not interfered the early enucleation of the submucous myoma might have permitted of the thorough evacuation of the uterine cavity and the prevention of sepsis, and certainly had a timely hysterectomy been performed life might have been saved.

For the purpose of emphasizing the gravity of such cases a résumé of the report of a few selected cases will be presented.

M. D. Mann [5] of Buffalo, reported a case of a woman 35 years of age who was pregnant for the first time after several years of married life. She came under Dr. Mann's observation in the second month of pregnancy, she was then suffering from a rapidly growing fibroid. She was advised to wait two months and if by that time the growth had increased in size to any great degree abortion would then be performed. At the end of the time dictated the patient returned with a much enlarged tumor; abortion was induced, the growth so distorted the uterine canal as to make impossible the delivery of the placenta. No operative measures were permitted by the husband or patient. On the second day symptoms of sepsis developed and continued with increasing severity until the tenth day when permission was given to operate. Accordingly an abdominal hysterectomy was performed. There was removed a large gangrenous subserous pedunculated fibroid together with several submucous and interstitial fibroids which distorted the uterine canal and prevented the escape of a portion of the placenta which was still remaining in a gangrenous condition. Death resulted in twenty-four hours.

Dr. Mann reported in the same paper a second case in which abortion occurred in the fifth month of pregnancy. Multiple fibroids were present, the placenta was removed with difficulty but not until it had become infected. After the removal of the sloughing placenta the uterine cavity was irrigated with bichlorid of mercury solution and packed with iodoform gauze. Three weeks after the abortion a sloughing fibroid was seen extruding from the cervix into the vagina. A hysterectomy was advised but before this could be accomplished gangrene of the lungs intervened. A thoracoplastic operation was made by Dr. Roswell Park, but death soon followed. In this case there was no pelvic or general peritonitis and the appendages were not affected.

Dr Jacob Frank [6] reported a case of pregnancy complicated with uterine fibroids in which abortion was performed between the fourth and fifth month. The placenta could not be delivered because of an obstructing submucous myoma. Later the placenta was spontaneously expelled but not until symptoms of sepsis had existed four days. Intrauterine douches were given, but the temperature remained high. The uterine secretions became fetid, an abscess formed and opened through the abdominal wall and through this opening there was extracted a sloughing fibroid. Recovery was slow, but complete.

[5] American Gynecological and Obstetrical Journal for April, 1896.
[6] Annals of Gynecology and Pediatrics, Vol. IX, page 140.

CONCLUSIONS.

1. In the majority of cases uterine myoma is the cause and not the result of sterility.

2. Uterine myomata complicating pregnancy are especially liable to infection.

3. The gangrenous process begins in the periphery of the tumor and invades the interior of the growth, and may penetrate the uterine wall.

4. Myoma uteri of the gravid uterus usually grow rapidly.

5. Submucous, less frequently interstitial myoma may so distort the uterine canal as to render impassible the delivery of the placenta; such growths should be enucleated when possible, the retained placenta extracted and the uterine cavity thoroughly sterilized and packed with sterilized gauze.

6. If the growths can not be enucleated and symptoms of sepsis do not yield to antiseptic doses no time should be lost in performing hysterectomy.

7. In every case of abortion or labor complicated by myoma the attending physician should be on his guard for the first indication of sepsis and in event of septic infection operative interference is imperative.

A CASE OF PYOSALPINX IN A YOUNG GIRL, WITH SPECIMENS AND REMARKS ON SPECIAL SURGICAL TECHNIQUE.

Read before Section on Abdominal Surgery, Obstetrics and Gynecology, Second Pan-American Medical Congress, Mexico City, Mexico.

BY HENRY L. E. JOHNSON, M.D.

A Vice-President of the Second Pan-American Medical Congress; late President of the Clinico-Pathological Society; late Vice-President of the Washington Obstetrical and Gynecological Society; Professor of Gynecology in the Medical Department of the Columbian University; Professor of Gynecology in the Post-Graduate School of Medicine of the District of Columbia; Director of the Gynecologic Clinic in the Central Dispensary and Emergency Hospital; Consultant to the Woman's Clinic, etc.

WASHINGTON, D. C.

I have the honor of presenting for your consideration an interesting case of pyosalpinx in a young girl, for the relief of which laparotomy was performed one year ago. Miss —— consulted me in the early part of November of last year, giving the following history of her disease, the cause of which is quite direct:

She was white, single, 19 years of age, and had always enjoyed good health, the present being her first serious illness. Family, social and moral history excellent. In August, 1895, she visited the sea-shore, where she bathed daily. When she was over-heated from walking on one occasion she entered the surf, which was rather cold, during the first day of a menstrual period, remaining two hours, and while there she was taken with violent uterine tenesmus and pain in the lower portion of the abdomen, particularly in the right inguinal regions. The flow ceased suddenly and did not reappear during that month, but the pain and suffering continued to the time of operation, three months later. From Sept. 5, 1895, she had a constant and excessive uterine hemorrhage, frequently passing clots of large size. She lost flesh and had for two months more or less fever in the afternoons. The pain, flow and consequent prostration made her practically an invalid.

Examination:—The patient showed decided effects from hemorrhage and was very weak and thin. The abdomen was distended, extremely sensitive on pressure over ovarian regions, while marked induration or masses could be detected through the thin abdominal walls. The external genitals were normal, hymen intact, which required rupture before digital exploration could be made. The uterus was small and anteflexed, the cervix was small and cone-shaped, with a pin-hole os, through which a bloody discharge was flowing. On either side of the uterus large, irregular fluctuating masses were detected, and the diagnosis of cystic degeneration of both ovaries with pyosalpinx was made.

Laparotomy was performed on November 13 and the previous diagnosis was confirmed. Both tubes and ovaries were firmly adherent in a mass of omentum, intestines and exudate. The adhesions were separated and the tubes and ovaries enucleated from their bed and removed. No injury to the bowels occurred. The pelvic cavity was sponged dry and the abdominal incision closed with interrupted silkworm-gut sutures, without drainage. Convalescence was uninterrupted and uneventful. The patient has had no return of pain or flow and has since enjoyed perfect health. The abdominal incision is firm and strong; no hernia or uterine prolapse or displacement has followed the operation. The specimens from this case are herewith presented.

Where pelvic masses are small or well defined I advise removal by laparotomy, but where pus has escaped, forming a pelvic abscess with the usual extensive bowel adhesions, etc., the better treatment is evacuation per vaginam with irrigation and gauze packing. When laparotomy is performed a small gauze pad should be placed below the tubes before excising, to catch any discharge and prevent its coming in contact with the peritoneum or intestines, and the uterine end of each tube touched with the actual or thermic cautery, or pure carbolic acid, to destroy any germ or bacillus which may be located outside of the portions included in the ligatures.

In all gynecologic abdominal operations, I adopt the following procedure: Thorough asepsis in every detail. Restricted liquid diet for at least three days preceding operation, and thorough purging or salting with sulphate of magnesia for two days previously. On the day of the operation I direct five grains of calomel with soda administered by the mouth early in the morning, and one hour before anesthetizing I have administered two ounces of sulphate of magnesia in water. The initial purging empties the intestines and causes the bowels to flatten and collapse, thereby obviating the annoyance from distension. The calomel and magnesia, which are administered before the operation, produce peristalsis and an early evacuation following the operation, thereby restoring the intestinal circulation. As soon as this is accomplished, the distressing symptoms of colic and vomiting, which cause the patient so much suffering and the physician annoyance, is obviated. I generally try to secure an evacuation of the bowel during the first twenty-four hours, and when this does not follow from the calomel and magnesia, I have a stimulating enema administered, consisting of one quart of hot water, two ounces of sulphate of magnesia and half an ounce of spirits of turpentine. Under this treatment the colic above referred to will never occur. Opiates I never used, and nothing is given by the mouth until the bowels have responded, except teaspoonful doses of hot water at intervals of half to one hour to relieve thirst, after the effects of the anesthetic have disappeared. If thirst is a distressing symptom, notwithstanding the administration of hot water by the mouth, a pint of hot water is administered by enema.

To prevent prolapse or displacement of the uterus, I always stitch the anterior and posterior edges of the broad ligament together, drawing the anterior surface of flap very short and tense, and include by a suture or ligature the round ligament on each side, which has been previously drawn out and rendered tense. This keeps the uterus in the normal anterior position. I have never had prolapse or displacement follow an operation and I believe it will rarely occur, where this method is practiced. I remove the abdominal sutures as early as the fifth or seventh day.

1402 L Street N. W.

CANCER OF THE RECTUM.

WHAT HAS MODERN SURGERY ACCOMPLISHED IN ITS TREATMENT?

Read before the Chicago Academy of Medicine, January 8, 1897.

BY JAMES P. TUTTLE, M.D.
NEW YORK.

(*Concluded from page 585.*)

THE OPERATION.

It must not be assumed that every cancer of the rectum is operable by, or demands the same method. The procedure which will enable us to remove the tumor thoroughly in the least possible time and with the smallest degree of shock should be the one selected in each individual case. The elements in the production of shock consist in the length of time the patient is under the anesthetic, the size of the incision and the hemorrhage incurred. The exhaustion which follows the operation will depend largely upon the amount of surface left to granulate, and from which suppuration will necessarily take place. It is most important therefore to leave as small an area of such surface as is possible in every case. When the tumor does not involve more than the lower inch and one-half of the rectum, it may be easily dissected out from below without disturbing any of the bony floor of the pelvis. In such cases the Cripps, or Allingham operations, supplemented by the bringing down and suturing of the extremity of the gut to the margin of the anus, whenever possible, is the most advisable method. Rapidity is of the utmost importance in these operations in order to avoid hemorrhage, as it is impossible to catch and tie the different vessels as they are cut. The utmost familiarity with the anatomy and the relation of the parts, and boldness in the operator, are necessary for success in these methods. When the tumor extends for two or three inches up the rectum, excision of the coccyx will afford abundant space for the removal or resection of the diseased area. Above these limits the Kraske operation, or some of its modifications, will generally be necessary. Operators are divided in their opinions with regard to the advantages of these different modifications, some holding that the original Kraske is superior to all others, while many believe that the osteo-plastic operation is the rational scientific and most successful method. Between the Kraske, Hochenegg and the Kocher operations there is only a difference in the amount of bone removed, and we should always select that one which,

allowing sufficient space for operation, destroys as little as possible of the bony floor of the pelvis. Of the osteo-plastic operations the Walker, Levy and Billroth-Rehn-Rydygier methods are the most important. The first case operated upon by the Kraske method in this country was that by Willy Mayer, reported in the above tables. Since that time a great many operations have been done upon these lines, but the most of them more or less modifications of the original method. My own experience has been confined to the osteo-plastic method, and I shall here describe the technique of the operation as I have performed it in six cases. The patient is prepared for the operation by the daily administration of laxatives for three or four days previous to the operation. Intestinal antisepsis is carried out by the administration of naphthalin and salol āā gr. x to xx, t. i. d., and the daily administration of high enemata of boric acid solution when possible. The parts are prepared for operation with all antiseptic precautions, and after the patient is etherized the rectum is thoroughly irrigated with a 1-5000 bichlorid solution. The patient is laid on his left side in the Sims position with a firm pillow underneath the hips, the legs being well flexed. An incision is then made about one-half inch from the right margin of the sacrum, beginning at a point opposite the third sacral foramen, and extending down to the tip of the coccyx. This incision is carried boldly and at one stroke, through the sacral and coccygeal ligaments into the cellular tissue posterior to the rectum. Whatever hemorrhage occurs is checked by pressure with gauze in the hands of an assistant. The rectum is now rapidly detached from the anterior wall of the sacrum by the fingers and gauze is stuffed into the space thus made in order to check the hemorrhage and avoid wounding the gut when the bone is cut across. A transverse incision is now made from the upper limits of the first incision across the sacrum and thoroughly down to the bone. The sacrum is then rapidly cut through with a chisel, and the flap formed is turned outward to the left side, giving thus a full view of the pelvic cavity and affording ample space for all manipulations. At this point it will become necessary to clamp the middle and perhaps the lateral sacral arteries, but all bleeding in the skin wound will generally have ceased through pressure. The detachment of the coccyx from the insertion of the sphincter and levator ani muscles will cause the bony flap to fall back easily and well out of the way. A fold of the gauze should now be laid over the rough end of the sacrum in order to avoid wounding the hands of the operator or the gut when it is dragged down. Careful examination is now made of the gut and the extent of the tumor upward clearly elicited. If by any chance the tumor should be found to have involved such organs or tissues as would render it inadvisable to remove the same we may, at this point, desist from further operation, restore the parts to their original position, and will have done the patient little damage. The next step in the operation is to dissect off the tissues surrounding the rectum and free it from all attachments above the upper limits of the growth, and as far as is necessary to bring it down to the point of proposed attachment. If the peritoneum has to be opened, it is better to cut the lateral folds with scissors and, where the meso-rectum interferes with bringing the gut down sufficiently, a long bladed clamp should be applied to it as close to the sacrum as possible, and it should be cut off as far away from the gut as can be, in order to avoid wounding the superior hemorrhoidal artery, and thus interfering with the blood supply of the gut below. The application of this clamp is a precaution rather than a necessity. Having freed the gut from its higher attachments as much as is necessary to bring it down to the point desired, the peritoneal cavity should be walled off with iodoform gauze or sewed up, the gut should be clamped across or tied just below the point at which it is proposed to cut it off. A second clamp or ligature should be placed a short distance below this, and the intestine cut through between these two. Both ends of the incised gut should be cauterized with pure carbolic acid, in order to destroy any septic material which may exude from them, and they should each be wrapped in iodiform gauze to protect the other portions of the wound. The lower segment should now be rapidly dissected out, and this can be done with almost no hemorrhage, as the chief blood supply has been cut off by the clamp above. Where the anus is removed, some bleeding will take place from the middle and inferior hemorrhoidal arteries, but not of any alarming amount. If the tumor does not extend to the anus, and there is a healthy area of mucous membrane between it and this aperture it is advisable to resect the diseased portion and make an end to end union of the parts. If the lower portion of the rectum is so much involved that the preservation of a sufficient amount of gut for the attachment of the upper segment is found to be impossible, it is advisable to remove the whole growth, dissect off the mucous membrane from the margin of the anus, invaginate the intestine through this aperture, and suture it to the surrounding skin. The external sphincter when left should be well stretched, or even incised in order to prevent any obstruction to the free passage of fecal matter. Where it is impossible to preserve the sphincter we may yet be able to leave the levator ani muscles, and they will be of great assistance in the establishment of fecal continence. After the intestine has been sutured either to the lower segment or to the skin about the anus, I invariably pass one or two anchoring sutures through the meso-rectum, and the skin at the margin of the posterior wound, in order to remove as far as possible any tension which may come to bear upon the lower stitches. As to the peritoneal wound I have sutured it twice with catgut, and walled it off four times with iodoform gauze; and can really see no advantage of one method over the other.

The clamp upon the meso-rectum can be removed at the end of the operation, and a small strip of gauze packed into the space in the hollow of the sacrum. The bone flap is then restored to its position, and maintained there by silkworm gut suture passed through the skin and peritoneum, at intervals, throughout the transverse incision. The rest of the wound is left unsutured and the ends of the gauze, which wall off the peritoneum and fill up the sacral space, are brought out at its lower angle. Where it is impossible to bring the gut down and attach it to the lower segment, or to the anus, it may be sutured in the lateral wound, or treated by the Jaennell-Willems method referred to above. (*Centralbl. f. Chirurg.*, May 13, 1893.) By this method there is very little blood lost in the operation. Indeed, I have frequently seen more during an ordinary operation for hemorrhoids or an extensive fistula. In the last four cases I have done, there has not been more than four ligatures used in any one.

The questions of the advisability of end to end

sutures, the application of the Murphy button, the suturing of the peritoneal wound, the closing of the sacral incision and the preliminary colostomy, arise in this operation as in all others for cancer of the rectum, and must be settled by a wider and larger experience than that of any one operator. I have detailed the technique as practiced, with but one fatal result in six cases, and that, apparently, from a personal idiosyncracy.

Suturing the gut.—In the cases in which reports have been made with regard to suturing the gut, the statistics show the following: 40 cases sutured, 4 deaths; 29 cases not sutured, 7 deaths, a mortality of 10 per cent. in the former, and 20 per cent in the latter, just twice as great.

Sterlein reports: 26 cases sutured, with 6 deaths; 26 not sutured, with 10 deaths.

These results correspond with my own, and I think we may conclude that suturing is safer as well as the most logical procedure. The Murphy button has been employed in only three cases that I have been able to find. In one the result was favorable and in the other two not, non-union occurring in one and death in the other, but not on account of the button. There being no peritoneal covering to the distal segment of the gut, and the thickness of its circumference being so unequal, it does not appear to me that this is a suitable place for the application of this ingenious instrument.

Preliminary colostomy.—A number of prominent surgeons have lately advocated colostomy as a preparatory operation for excision or resection. I have been unable to obtain any reliable statistics on this point, but those which I have show no marked decrease in the mortality or other great advantage.

In cases where the stricture is so close that the intestine can not be properly emptied, it would probably add greatly to the safety of the operation, and where the tumor has extended too high to be outlined by the finger, it would lead to a more certain opinion as to whether or not the tumor was a suitable one for excision. This information, however, could and should be obtained by the use of the sigmoidoscope before beginning the operation, except where the contraction renders the introduction of this instrument impossible. Otherwise it appears to me as substituting three operations for one in patients the conservation of whose strength is of paramount importance.

Limitations.—Before the development of the Kraske method, it was generally conceded that all cancers, the upper limits of which could not be reached by the index finger, were inoperable by excision. These cases were consigned to an unalterable fate, and their sufferings alleviated by such palliative methods as were at our command. When asepsis and antisepsis were still unknown to the profession, the invasion of the peritoneum was considered unjustifiable, and in cases in which this was necessary lumbar colotomy was considered our only resource. Since these improvements in the surgical art, however, we no longer place these limitations upon the operation. We have learned that other conditions have more influence in the limitation of our operations than the extent of the tumor upward into the gut. We may almost say that the distance which the cancer extends upward puts no limitations upon the operation. Ten, thirteen and twenty inches have been removed, and all of the cases have made excellent recoveries. Almost the entire sigmoid has been removed, in one case, the end of the colon clamped off, and an inguinal anus established at the same sitting with an excellent result. It will be seen by a careful study of the above tables, that the mortality has only slightly increased in proportion to the amount of the intestine removed. The real limitations of the operation consist:

1. In the physical condition of the patient. Age does not seem to contraindicate it so much as would be expected. Old people in good health seem to stand this operation well, and recurrence is in inverse proportion to the age of the individual. Stout and phlegmatic individuals, with weak and flabby hearts, and whose kidneys are not in the best of order, are not favorable subjects for any surgical operation, much less for such a formidable one as this, which necessitates an anesthesia of one hour or more. Two of Dr. Gerster's fatal cases were of this character, and he frankly admits that this physical condition was the cause of death rather than the operation itself. The careful elimination of such cases as these would bring the mortality from this operation down very much.

2. In the length of time which the tumor has existed at the time the operation is to be done. Those cases in which the symptoms have existed for upward of a year have, as a rule, resulted in a high mortality and rapid recurrence of the disease, whereas those which have been operated on within six to nine months from the appearance of the symptoms have given a low mortality and a comparatively small percentage of recurrences. After cancer has existed in the rectum for a year or more, we may expect to find dissemination and metastatic deposits in the liver and elsewhere in the body. But we must not date the existence of cancer from the first symptoms. In this region carcinoma is generally due to the transformation of ulcer, adenoma or other benign growth into the malignant. With such facts in view, we would hesitate to advise an operation for the removal of the tumor after a well established history of malignancy for over a year without the most searching and patient examination of the case.

3. In the extent to which the tumor has involved the surrounding tissues about the rectum. If the bladder, the ureter or the urethra are involved in the neoplasm, the operation offers little if any encouragement to the patient. The vaginal wall, the uterus and its appendages may be involved, and yet, if they are moveable with the tumor upon the surrounding tissues, they may be all removed *en masse* with fair prospect for recovery, although for such a formidable operation the patient should be in excellent physical condition. The adhesion of the tumor to the sacrum may be due to inflammatory products or to involvement of the periosteum, or the bone itself. In the former condition it would offer no contraindications to the operation, while in the latter, the probability of a rapid recurrence would deter us from operating, in a majority of cases. The mobility of the tumor, therefore, is the most important symptom upon which we have to base our conclusions as to whether a tumor is or is not operable. Where the growth is movable upon the surrounding tissues, and can be dragged down from above to a considerable extent, without traction upon the bladder or the pelvic organs, the fact that our finger fails to reach its upper limit should not deter us from expecting a favorable result from operation. Transgression of these limitations easily accounts for the high death rate from this operation among continental surgeons.

Sequences.—The dangers of this operation may be divided into those of the operative, the post-operative and the remote period. In the operative period we have to be prepared for:

Hemorrhage.—In the tables furnished there are one death from this cause direct and three from anemia, which may have been caused by hemorrhage, in 259 cases. In my own experience it has been the least troublesome feature of the operation. The chief source of blood supply to the parts is through the inferior mesenteric or superior hemorrhoidal artery, and if this is temporarily compressed the dissection may be done with very little bleeding. So far as that from the gut is concerned when it is cut off, there is frequently not enough bleeding to indicate a satisfactory circulation. Twice have I cut the gut off, the second and even the third time, before I found a sufficiently active circulation to assure me that it would not slough. There is much more danger from this than from hemorrhage.

Adjacent organs.—Injury to bladder, ureter or small intestine may occur during this operation. Where the disease is so extensive as to involve these organs in the growth, extirpation rarely proves of any benefit and should not be undertaken. Under other circumstances, the operator who is well posted in his anatomy will rarely have any such accident. If, however, through anomaly of position, any of these organs should be wounded, they should be repaired at once. The few cases in which such accidents have occurred give us no reliable statistics. They are accidents which may, but are hot likely to occur. Thus far, all the cases in which the ureter has been injured have proved fatal, so far as my researches show, and the greatest care should be exercised to guard against this accident.

Injury to the peritoneum is spoken of by Moulonguet (*Bull. et Mem. Soc. Chir.*, Paris, 1894), as an accident of the operation, but it appears to me to be a part and parcel of it. One should not enter this cavity recklessly, but when the radical removal of the tumor demands it, we should not hesitate to do so.

Injury to the seminal vesicles.—Even their complete removal has been found necessary in this operation. No bad results have so far been attributed to it, but it is easy to imagine that if the patient should have a gonorrheal vesiculitis, injury to these organs might infect the whole wound. Such a contingency must be kept in view and provided against.

Injury to the urethra in the male and the vagina in the female have frequently occurred. Their immediate repair has generally been followed by good results, however. A good sized sound kept in the urethra and the finger of an assistant in the vagina when separating the rectum from these parts, will generally enable us to avoid these accidents.

Nerves.—Injury to the sacral plexus or the third sacral nerve is spoken of by the French writers as an accident of this period. There are some remote sequences which would lead us to believe them. Too high section of the sacrum, too wide dissection of the gut, or too much tearing and pulling in the operation may result in this injury. Clear, clean cut dissection is better than dull in this operation. As will be seen from the remote sequences these nerve lesions are of no great moment, as their results are almost always temporary and can confidently be expected to disappear.

POST-OPERATIVE PERIOD.

Retention and suppression of urine.—The former is quite a frequent occurrence, in this as in all rectal operations. It is generally temporary although Boeckel and Jaennell have reported cases which lasted one a fortnight, and one, a month. The condition is identical with that which follows a simple operation for hemorrhoids and is due to the same cause, namely, spasm of the sphincter vesicæ produced by the reflex irritation from the rectal wound. It is absurd to attribute it, as Moulouguet does to destruction of the hypogastric plexus, and Morestin, to a medullary stricture due to cutting of the sacrum. There is no foundation for such reasoning in fact and the condition is easily accounted for in a simpler way. Suppression of urine has been the cause of two deaths from this operation. Shock and the prolonged etherization were probably the cause of the suppression, together with possibly some obscure nephritis before operation.

Secondary hemorrhage.—Morestin says this occurs when the inferior mesenteric artery is cut, because it retracts greatly. It occurs to me that such a vessel would bleed at once and not secondarily. This could only happen when the gut was not sutured as in the latter case the vessel would almost surely be held by the threads. The general oozing is sometimes considerable but I have never seen it alarming.

Pain.—After the third or fourth day the patient suffers very little pain from this operation. If the bowels are controlled and the wound is not irritated by fecal discharges, morphia is rarely necessary.

Suppuration.—This necessary feature in the majority of these operations may be greatly limited by careful dressing. The later it develops and the less profuse it is, the more rapidly will it cease and the sooner will the wound heal over. A solution of ichthyol 10 per cent. in glycerin has served me better for this purpose than any other. Prolonged and excessive suppuration may lead to exhaustion or to amyloid disease and hence it requires the closest attention. Perfect drainage of all the parts, putting the patient on his feet as soon as possible to assist in this and to relieve pressure on the wound, are important adjuncts in the treatment which must be carried out in the most antiseptic manner.

Sepsis.—Local or general sepsis may develop any time after the operation. It manifests itself generally in the peritoneum at first and may occur at once or several days after the operation. It may be active and virulent or obscure and resembling shock. Because there is no tympanites we should not conclude that peritonitis is absent. In the cases reported it was the cause of death in eight instances. I have already stated my own views as to its cause, and having escaped it in my operations thus far, I feel justified in reiterating this opinion axiomatically. *Keep the fingers out of the rectum, and do not open the gut until the peritoneal cavity has been closed.*

Necrosis of the bone.—This result of the Kraske method has occurred a number of times, but it has never seemed to present any serious complications. The non-union of the bones may take place and the fragments may be eliminated in their entirety after the osteo-plastic operation. Immediate suture of the bones has not proved satisfactory to those who have practiced it. The preservation of the soft parts attached to the bone is the only method to guard against this complication.

Gangrene.—Bardenhauer, Manoury, Boeckel, Terrier and Leprevost have all reported cases of this post operative complication. The first four attribute theirs to deficient circulation. Leprevost accounts for his three cases on the theory of nerve lesions. Morestin makes a logical division of the subject into 1, gangrene from ischemia; 2, gangrene from sepsis; 3, gangrene from nervous origin.

The local anemia or hemostasis is without doubt the most frequent cause of this complication. The practice among some operators of cutting off the meso-rectum close to the gut, is very likely to cause it, as the superior hemorrhoidal artery is included in the folds at this point, and if that vessel is cut off, all the gut below will necessarily slough. Leprevost makes the strange assertion that section of the nerves will prevent this gangrene.

Pulmonary, nephritic and cardiac complications occur in the post-operative period in this as well as in all other major operations. They present no unusual manifestations, and we will not discuss them here.

Fistula.—Fistula is a very frequent sequence in resection. It comes from the point of suture through the lower angle of the sacral wound. There were four of these in the private cases reported above and two in my own patients. One was sewed up twice but the operation failed. They all healed, however, under simple local treatment.

REMOTE SEQUENCES.

The remote and more or less permanent sequences of this operation remain to be considered.

Incontinence of feces.—Where the sphincter and levator ani muscles are removed, it is not to be expected that the patient will retain any considerable control over his bowels. If the wound is left to granulate and the gut is not sutured to the skin, a cicatricial contraction will occur which may, in a manner, fulfill the function of the muscles removed. But unless this is done, or some such method as that of Gersuny or Willems-Jaennell is introduced, incontinence is likely to supervene. If the anus shall have been made in the sacral region the fecal passages may be controlled by a truss on the order of that introduced by Hochenegg. In the cases which I have reported, there were sixteen cases of complete incontinence, twenty-two of partial incontinence, and in the remaining the functional action of the parts was either satisfactory or not mentioned. The incontinence was generally referred to gas and liquid stools. This sequence therefore, is not so much to be dreaded as is generally supposed and with the methods for its prevention at our command we may expect it to grow less and less frequent.

Prolapsus.—There have been a number of cases of this deformity following the operation for extirpation. Morestin saw four cases, but none in which the wound had been allowed to heal by granulation. Ricard reports a case, which, he says, was due to rupture of the cicatrix soon after the operation. Stertrin reports 1 case in 25, Paul 2 in 14, it is not mentioned in Czerny's 109 cases and Finet collected 21 cases in his collection of 341, 19 of them being in cases with sacral anus. This sequence of the operation is a most logical one when we consider that the passive supports of the rectum, the peritoneal folds and the fibrous bands which hold it from above are all cut, stretched or destroyed.

Bergher reports a case occurring after an operation for extirpation, in which the anus had been formed at the upper angle of the sacral wound. This case was cured by an unusual form of colopexy, the meso-sigmoid being sutured transversely to the promontory of the sacrum. The result in this case was most gratifying, and indicates the method to be pursued in future instances of this deformity, although it by no means settles the position in which the bowel should be sutured.

Prolapsus of the uterus has been observed as a result of this operation, but, so far as I can learn, it has never occurred except where the coccyx and part of the sacrum have been removed. The osteo-plastic operations will effectually prevent the occurrence of this deformity. Suppuration of the sacral canal, Morestin says, may occur much oftener than is supposed, as, in the one case autopsied there was no indication of this condition in life.

Neuritis of the sacral nerves and temporary anesthesia of the perineal area have been described by Jaennell and others, but this writer says he does not think they ever occur in aseptic wounds and, so far as my experience goes, they rapidly and permanently disappear.

Stricture.—Contraction of the caliber of the gut is a necessary sequence in perineal excision where the parts are not sutured together. It also occurs in excision and resection where the circular suture has been used. It is a deformity easily prevented, not difficult to cure, and productive of so little inconvenience that it should not be considered in deciding for or against the extirpation of cancer.

CONCLUSIONS.

From these statistics we may draw the following conclusions:

1. Cancer of the rectum can be cured in over 10 per cent. of the cases.
2. The mortality from the radical operation, though still considerable, is not alarming, and is decreasing with every year's experience.
3. The radical operation prolongs life on the average over 100 per cent.
4. As a palliative measure, excision is far more successful and beneficent than any other measure.
5. The sequences, though numerous, are not at all intolerable and should weigh little in our considerations when it is a question of so serious a disorder as cancer of the rectum.

And thus we answer the question "What has modern surgery done for cancer of the rectum?" It has cured it, conquered all its disgusting features and relieved its pain, doubled and more the lease of life, and at comparatively small risk has given to the hopeless hope, not timorous and vague, but well-founded, and which grows stronger and more confident every day they live without recurrence.

DISCUSSION.

Dr. JOSEPH B. BACON.— I was much pleased with Dr. Tuttle's paper, because it is an educational contribution, and one that we are in need of. It brings the statistics of operations for cancer of the rectum up to date. He has given us a great many practical points and has shown us how we may avoid danger in performing this operation. My experience with operating for extirpation of the rectum has been confined to six cases, five for cancer and one case of stricture of the rectum. All the cases were operated upon by the Kraske method. Of these six cases I lost one, the patient dying from shock. Most of the cases occurred in young people, and recent statistics show that recurrence is much greater in young people. In some of them the disease has recurred within six or ten months from the time

of the primary operation, up to a year and a half. The longest period that any of the cases have lived after the extirpation of the carcinoma has been twenty-one months, and this case was the most serious one of the lot. It required a more radical and severe operation. The fact that this patient lived twenty-one months, thoroughly convinced me of the importance that we should never do a colotomy for cancer of the rectum, except in those very severe inoperable cases where it is done to prolong life. Two of the patients who lived for six months after the operation, doubted my diagnosis, and I was glad to have them do so, because they felt so well and free from any symptoms of recurrence for months. One case was free from the disease for more than a year and a half and he was thoroughly convinced that my diagnosis was wrong. He lived at least one year in perfect happiness, while a colotomy would have been a reminder to him every hour that he was doomed. So I am fully convinced that I shall never resort to a colotomy except in severe cases as a last palliative resort.

With reference to the osteoplastic operation of Dr. Tuttle, I have never done it. My cases have been such that I thought it necessary to remove the anus and the rectum and always stitch the end of the gut up into the upper sacral wound, but I can readily see that the operation as modified by Dr. Tuttle, is excellent, in that it leaves the parts in a more normal condition, with better support to the rectum afterward, and does away with the immense amount of cicatricial tissue which follows the usual operation.

The point he has made of loosening and bringing down the rectum from above to its limit before opening the gut, is very good. In those cases where the anus is to be removed with the rectum and the gut stitched into the upper end of the wound, it is my plan to use the Murphy button, with a large gum elastic tube and unite the ends of the gut, doing an end-to-end anastomosis, approximating gut and tube. By this procedure we can carry the feces into a basin of water under the bed and we are able to prevent infection of the wound after the operation, for a few days. By this time the peritoneal cavity is closed. I regard it as an important point.

The statistics of the Doctor's operations are very favorable indeed, as compared with those we usually see given for this operation. It is an important operation and one that has come to stay. I believe that cancers of the rectum will be treated as successfully, if not more so, than the average case of cancer of the uterus.

A word or two with reference to the sequelæ of the operation. I have had only one case of prolapse of the bowel, from the sigmoid down to the artificial anus, and this was very annoying to the patient. The must have been a prolapse of three or more inches of the bowel, but the case was quite advanced when I operated, and there was no hope of prolonging the patient's life more than a year at most and so I did not do a secondary operation to prevent the prolapse, but used a truss pad and compress.

Dr. John B. Hamilton.—I have been very much interested in Dr. Tuttle's paper. I have had such cases of this kind as fall to the lot of the general surgeon. I have completed the operation five times and abandoned it once. The cases have been operated upon at the Presbyterian and Marine Hospitals of this city. I agree in the main with the conclusions of the author of the paper. I wish to say in reference to the statement made by the essayist, that age seems to be no bar to the operation. One of my most successful cases was that of an old woman over 70 years of age, a Scandinavian, operated on at the Presbyterian Hospital last year, and she was still alive at last account. In fact, she was so old that I hesitated very much to undertake the operation, but the patient and her friends were anxious that it be done, which was the principal reason for my undertaking it. I was agreeably surprised to find how easy it was to separate the rectum from the fascia, and as the sphincter was involved in the carcinoma in that case it was not possible to bring the gut down and stitch the end. But I brought the gut out at the wound, removed the coccyx and sewed the end into the incision. I might say a word or two as to the technique of the excision of the coccyx. I do not think it is necessary to use a chisel, unless the surgeon is obliged to excise a part of the sacrum. A stout knife will separate the coccyx at the sacral joint or the first coccygeal joint with ease, the flap turned down, and the surgeon can sew directly through the bone, just as he would do in any osteo-plastic operation, in sewing the trochanter, and the like.

In another case there has been a recurrence of the disease. The patient was operated upon about two years ago, and I understand now is at the point of death. She lives at Joliet. In this case the operation had been practically condemned, on account of the fact that the carcinomatous growth extended to the posterior wall of the vagina, but a strip of the posterior wall of the vagina was removed, when I made the usual operation and she made an excellent recovery. I was able to bring the gut down and stitch the ends together, saving the sphincter. In this case I made an osteo-plastic section of the coccyx and sewed the parts together. The wound closed, except at the lower angle, where I inserted iodoform gauze and it healed nicely. The woman supposed herself entirely well a year after the operation, but there has now been recurrence.

The case I abandoned is an instructive one, and the man is still alive (January 1897) at the Marine Hospital. Last June I undertook the excision of the carcinomatous rectum in this patient, who was a sailor of about 35 years of age. I suppose this case bears directly on the paper, because the Doctor considered cases inoperable where there was dragging on the bladder. I could detect no dragging on it by the usual method of manipulation. But still when I began to separate the tissues from the rectum I found it so firmly attached to the posterior wall of the bladder that I considered it impossible with safety to the patient to extirpate it. I then made an inguinal colostomy, packed the wound with gauze and let it alone. The man was still alive a few weeks ago. The pain from which he had suffered was very acute and seemed to be entirely relieved by the operation, although he suffered a great deal of exhaustion and some shock immediately after the operation and remained in bed for about two months.

I have lost one patient from shock. This was a stout man, 65 years of age, a farmer from Iowa, and seemed to be a perfectly healthy and hearty looking man. He was rather too fleshy to be considered a good subject for operation. This case simply bears out the statement made with regard to this class of patients. The man died on the third day after the operation, although it was performed without the slightest difficulty. I was able with my fingers to separate all of the tissues about the rectum from the carcinomatous growth and made a complete excision. That, too, involved the sphincters, and I stitched the cut end into the upper wound. The patient began to sink after the operation; the temperature fell, and the pulse rate was diminished. He finally died in spite of all that could be done for him, and death was attributed to shock. It is the only death I have had in this series of cases.

One word with reference to Dieffenbach. I think the Doctor discredited his statistics. I think those of us who have had occasion to look into the literature of surgery of seventy-five years ago will be surprised to find what wonderful results Stromeyer and Dieffenbach attained in plastic surgery and how great they were in their operations. In 1847 a book was published by Valentine Mott entitled, "Mott's Travels in Europe and the East." Valentine Mott stated that he visited Dieffenbach, and he said (I believe I recall the phrase exactly) he had never in any part of the world seen such a successful spectacle of surgical tailoring as he saw in Dieffenbach's hospital. So Dieffenbach can be credited with being abreast of his time, and Mott placed him at the head of surgeons of his day in Europe in plastic surgery.

In all of my cases excised specimens were sent to the pathologist of Rush Medical College and the diagnosis confirmed.

Dr. J. B. Murphy.—There is very little that I have to say in addition to the most excellent paper which we have had from Dr. Tuttle on this subject. He has taken up and indeed covered every point of interest in the line of technique up to the present time. My experience in this class of cases is very limited. It includes two perineal operations with resections with the button, one perineal operation with resection with the suture; three Kraske operations, two with the button and one with suture of the intestine at the upper angle. The primary operation was with suture with resection by way of the perineum, and recovered. There was primary union of the wound in the two operations where the button was used. The button passed in one on the ninth, and the other on the eleventh day. One of these operations was done three years ago, on a lady 62 years of age. There has been no return of the growth, and no stricture. The other was a resection for an annular fibrous stricture, probably specific, four years ago, with no return at present writing. The Kraske operations with the button have not been so flattering, but they are about the same as with the suture, and the reason for that is, that we have the same conditions of circulation governing the edges of the flap, regardless of the method which we use in approximation. In the first Kraske operation with the button, I retained the sphincter, resected a number of inches of the bowel and was still able to approximate it. The button escaped behind through the fistula and the fistula healed. The second operation was an implantation of the rectum at the upper angle of the wound, in which I had to remove the sphincter and all the bowel below, brought the bowel out and sutured it to the skin. In the third operation with the button, the button also escaped

through the fistula behind. There was, however, union of the bowel, and there is a small fistula. The operation was performed during my service at the Alexian Brothers' Hospital. The patient is in good condition, has control of his bowels, although there is a slight leakage. The bony part of the operation I did differently from Dr. Tuttle. I made an incision from the tip of the coccyx up the sacrum, took bone forceps and split the coccyx and sacrum as high as desired, made a transverse division of the base of the sacral flap on one side, then a similar division on the other, fracturing the bone between both, and turned out an osteoplastic flap on each side (illustrating). When the operation was complete I put it back in position and used silver wire suture with which to close the entire flap.

In the first button operation, there was at the time of operation enlargement of the liver. I was convinced that we had a secondary carcinoma at the time to deal with, and so informed the patient, but regardless of it, he expressed the desire to be operated on. I operated on him and he died four months after, from secondary carcinoma of the liver. The condition of the circulation of that portion of the bowel which the Doctor mentioned, is the most important point in connection with rectal operations. When we cut off the mesorectum, shall we cut it close to the bowel or some distance from it? I have not made a study of the circulation at that point in the bowel, but from what Dr. Tuttle has said in his excellent paper, we should cut it some distance from the rectum. That is just in accordance with the circulation of the small intestine as I have demonstrated it. You may cut the mesentery, as long as you do not cut close to the intestinal wall in the mesentery. If the parallel vessel is preserved in the small intestine, you may cut off five inches of the mesentery without the slightest danger of necrosis taking place at the line of union. But if you cut off that vessel which supplies the collateral circulation, you will have necrosis. This matter came up a short time ago in "Approximations of the sigmoid with suture and with the button." I investigated the matter because there were a number of cases of failure of union, and I found that the mesentery was cut off too close to the bowel, and with the suture there was quite a percentage of cases of necrosis of the margin of the intestine. They called it gangrene, which is an erroneous term. It is a pressure necrosis combined with ischemia. It should not be called gangrene, because gangrene carries with it usually, but not necessarily, the idea of infection. Let us use ischemia necrosis or pressure necrosis in the place of gangrene. If we can in our operations on the sigmoid and rectum get primary union after suturing, then we shall have advanced a wonderful step. With the suture we expect to have contraction, probably less so in the cases I have mentioned, where we have end-to-end union with the button. Regardless of the percentage of recoveries in these cases, I must say that when I have finished a Kraske operation I am glad it is over. I would rather do several laparotomies than one Kraske. But the results are primarily good, and we should congratulate specialists in this line of work. The results are promising. I feel that every patient who has a carcinomatous growth of the rectum should be encouraged to have it completely extirpated, and not have an artificial anus. In that one point I feel that we as a body should congratulate Dr. Tuttle for the great emphasis he has placed upon it, and the importance his work will have in future operations on this portion of our anatomy.

Dr. ALEXANDER H. FERGUSON.—I am pleased to have been present this evening and to have listened to Dr. Tuttle's very valuable paper. It proves, first of all, that the Kraske operation has come into the surgical field to stay, although a great number of surgeons condemn it. That it has its place in surgery has been shown by the careful statistics the Doctor has collated. It shows that in at least a small percentage of cases a cure can be looked for, and that in a large proportion of cases relief is afforded and life prolonged. These are great gains for surgery in cancer of the rectum. My own experience has been rather limited in operating for cancer of the rectum. Before proceeding to briefly give my experience, I must congratulate Dr. Tuttle in not recommending the extensive operations that we read about in German literature. We are told in some of the cases that the urethra, the prostate, the base of the bladder, and goodness knows what all, have been removed, with a final report that function has been perfectly restored in some of them. It is impossible to conceive that such operations could take place, not at least in America. I have not performed a Kraske operation. I have been rather chary to remove those very high cancerous growths, although I should not hesitate to do so now, according to my ideas of the limitations of the operation. I think it very important to bear in mind that if the peritoneum is judged to be involved that the operation should not be done, and particularly if the disease has extended to the other viscera, as already intimated. My experience has been confined largely to the low operations, four in all, with one death. The first case died. In this one I removed about two and a half inches of the lower end of the bowel, including the anus, bringing down the bowel and suturing it to the skin. The patient died on the sixth day, from general septic infection, not from peritonitis, which I attributed to possibly too much suturing and infection at the time of the operation. That was some time ago.

My other three cases recovered without a return of the disease, as far as I know.

In the second case, bearing in mind a possible infection, I removed the coccyx, split the anus and sphincters, which were not implicated, backward, and sutured the anterior portion of the gut to the skin, leaving the posterior portion open for drainage. Infection is more liable to travel posteriorly than in any other direction, and I thought by getting an open wound posteriorly and continuity anteriorly I would be more liable to have union by first intention anteriorly and proper drainage posteriorly to prevent infection. And the result was good. The amount of bowel removed above the sphincter was over two inches.

In the other two cases I removed the sphincters, extending upward fully three inches. I did not attempt to bring the bowel down, but removed the coccyx and allowed it to granulate. They did well. The infection was very intense in my first case, which led me to believe that if I had gotten exosmosis instead of absorption things might have been better, consequently I resorted to the use of gauze saturated in glycerin, with iodoform, as a packing, in the manner that the essayist has recommended. Glycerin hardens the tissues and it is hygroscopic; we get a flow externally and it prevents absorption. I have used it extensively in other parts of the body with the most happy results.

Dr. J. R. PENNINGTON.—My experience with operative treatment of cancer of the rectum has been quite limited. I removed two and a half inches of the rectum, including the sphincters, in one case and the patient died from sepsis. I saw a patient five or six months ago who had been operated upon by a most eminent surgeon and pathologist for cancer of the rectum. Regardless of the character of the growth removed by the surgeon, when I saw the patient he was suffering from the effects of tertiary syphilis, plus the results of the operation. When we remember how prevalent syphilis is, and that the connective tissue surrounding the rectum is a very favorite place for development of syphilitic gumma, is it not reasonable to suppose that some of the rectal tumors diagnosed and treated as cancer of the rectum are not cancerous, but syphilitic gumma? I would advise in all cases where there is the slightest element of doubt as to the diagnosis, that vigorous antisyphilitic treatment be resorted to before operative interference.

Dr. JAMES G. KIERNAN—Cases were cited by Dr. Tuttle illustrating predisposing factors to complications of interest from a neurologic standpoint. Even supposing no meningitis had been found in the case reported, the operation itself would be sufficient to produce, in certain constitutions, mental disorder.

Several years ago, I called attention to the fact that the psychoses resultant on drugs, febrile disorders, and surgical procedures had a close resemblance. The existence of mental disturbance after surgical procedures was regarded as a settled fact by Ambrose Paré in the sixteenth century. Billroth points out that under the title "*delirium traumaticum nervosum*," the older surgeon described mental symptoms which made their appearance after surgical operations. The symptoms usually were great motor agitation, visual and auditory hallucinations and excessive loquacity. Especially the psychosis was of a stuporous type. Still more rarely, the symptoms were of a very violent type. The patient generally made a rapid and complete recovery. Exceptionally, death resulted from the delirium, and still less frequently the patient remained permanently insane.

These symptoms were ascribed to various causes. In the philistine epoch, precedent to the advent of the antiseptic era, these symptoms were generally ignored with that sublime contempt for all phenomena, except the mere operation which marked the philistines who dominated surgery. With the advent of antiseptics greater attention was paid to detail, the patient's general condition was taken into account and reports of mental disorders became more frequent in the literature. These were charged to antiseptics, as at one time they had been charged to anesthetics.

The attempt to prevent trophic changes by cutting the sacral nerve is certainly not justified by experimental neurology. There is another factor which has some bearing of interest from a diathetic standpoint. A patient suffering from the initial stages of paretic dementia has a tendency to bowel vaso-

motor disturbances. Given a patient in that condition who is the subject of rectal carcinoma, there would be predisposition to gangrene.

Dr. HENRY T. BYFORD—I have only had two cases of exsection of the rectum. In one patient I did a perineal section and the patient lived over a year. In the other case the cancer was quite high up and I attacked it through the vagina. This patient died of shock. I made a transverse incision in the posterior vaginal wall a short distance below the cervix, pushed my finger into the connective tissue, exposed the rectum, pulled it down as far as necessary, closed the peritoneum, cut out the diseased area and stitched the proximal end of the gut into the transverse incision in the posterior vaginal wall, first securing, however, the distal end of the rectum from hemorrhage by inserting some superficial catgut sutures. After stitching the rectum into the vagina, I closed the remainder of the vaginal incision so that the bowels evacuated themselves through the vagina. The tampon which had been put into the connective tissue was brought out through the anus. My idea was, if the patient had survived, to close up the vagina and establish a communication between it and the little portion of anus, thus making the vagina take the place of the lower rectum. In a woman with relaxed tissues it is easy to get at the rectum in this way, and I found I could operate with considerable facility.

Dr. W. X. SUDDUTH—I have under my care at the present time a case of cancer of the sigmoid flexure in which I have not advised operation for the same reasons as those taken by the essayist, but am treating it symptomatically. It is a case of long standing, although only recently presenting carcinomatous tendencies. The disease has now involved the structures to such an extent as to cause stricture, but the stricture, by methods of relaxation and by suggestion, has been overcome, and the patient is now in a fairly good condition. That is all I expect to do for the patient along that line.

The essayist mentioned the use of analgesics and narcotics to control pain in those cases where on operation is not advisable, and I will also say that many of these cases can be reached by suggestion better than by drugs. Pain is not a condition *per se*, but the perception of an injury. The injury may exist, but it is perfectly possible to put a patient in such a mental state that his latter days may be fairly comfortable without the use of narcotics that are apt to induce a drug habit. That is the only bearing suggestion would have in the treatment of these cases. It makes the last days of the patient comfortable without endangering his moral condition.

Dr. W. A. EVANS—Dr. Kiernan has suggested that I say something on the pathologic side of carcinoma of the rectum. We have two forms of carcinoma of the rectum, one of which is spread from the squamous epithelium of the anus, and the other which is developed from the cylindric glands of the rectum proper. Carcinoma of the rectum arising from squamous epithelium is one of the forms of squamous epithelioma. It is easily within reach and controlled by operative interference. The carcinomas that spring from the cylindric glands, and for which this treatment was advised, are difficult of diagnosis, as well as difficult to control. We are told that the growth is carcinomatous when the epithelial cells penetrate the membrana propria or the basement membrane of the gland tube. In ordinary squamous epithelioma, this is a proper rule to follow. In cylindric carcinoma, however, we may not find that the epithelium has penetrated the basement membrane of the gland tube. It is very easy indeed for an adenoma to become carcinomatous, and adenoma is to be looked upon with a great deal of suspicion. We find undoubted malignant adenomas in which there is no breaking of the basement membrane by the epithelial cells. We are accustomed to say that an adenoma has become malignant, under those circumstances, when it has grown through the muscularis mucosa and into the submucosa. I have seen cases in which the gland tubes have grown into the submucosa, and these tubes were perfectly typical. They have then penetrated the muscular layers as bands of epithelial cells without any definite arrangement, and then appeared on the outer fibrous coat in a definite, typical, glandular arrangement. Referring to the remarks of Dr. Byford, the difficulty in the uterus lies in the fact that there is no limiting membrane. There is a limiting membrane to the gland tube, it is true, but there is no limiting membrane between the lymphoid structure which we call the mucosa of the uterus and the underlying muscular tissue, and it is difficult to say just when the degree of penetration of the sublying structure has gone far enough for one to say that the growth is malignant. Undoubtedly, in all forms of carcinoma the epithelium reacts to some form of irritation. The epithelium in carcinoma is simply carrying out its life tendency as nearly as possible under its new circumstance. The irritation is the thing, but it is undiscovered. As the matter now stands, an opinion based upon structural arrangement is subject to the same limitations as opinions based on the effects called symptoms, while the epithelial arrangement generally follows well-marked lines, it does not necessarily do so, and therefore there are cases undoubtedly malignant in which we do not find, by the microscope or the gross examination, physical expressions that are recognized as expressions of malignancy. These forms of glandular carcinoma form metastases very much more frequently than do the carcinomata that are due to squamous epithelium, because of the fact that the malignancy consists of this growing into the underlying structures, and the arrangement of the epithelium in gland tubes is a normal growing into the underlying structures, and therefore, the easier it grows down under pathologic conditions. Whereas in squamous epithelioma we are dealing with epithelium which always covers, which has no capacity to do otherwise, and which when it goes down lines a lymph tube. Its tendency to remain on a surface limits vary greatly its malignancy. Carcinoma of the rectum gives rise to secondary infections in the sacral glands, and the operation that has been suggested by Dr. Tuttle is one which attacks the disease directly in the line in which we expect infection to travel, and it therefore exposes to view the channels of danger in this disease.

Dr. TUTTLE (closing the discussion)—Mr. President and gentlemen: I thank you most heartily for this free discussion of my paper, and I am gratified to find the unanimity with which my conclusions have been accepted. I have been particularly glad to hear from those whose reports of cases I have not seen in print and to find that their experiences do not differ very much from the average experiences of those whose cases I have reported. I am glad that Dr. Murphy has taken the view he has of the important point in the technique. It is the point with regard to hemorrhage. I have always taught, since I have done this operation the first time about six years ago, that this was the essential point in the technique which I followed, that of cutting the mesorectum away from the gut. That has not been any happy accident, but it is due to some forty or fifty necropsies that were made with regard to establishing the location of the inferior mesenteric artery as it is in that part of the body, and I find in all of the cases that it hugs closely the wall of the gut itself in the peritoneal fold, the so-called mesorectum and mesosigmoid. The leaving of that vessel intact is the most important point in the prevention of gangrene and sloughing.

Another point which I did not insist upon in the paper was with reference to the prevention of fistulæ. I am perfectly confident that the majority of fistulæ which have occurred in cases of end to end suture are due to obstruction to the passage of fecal matter at the lower end of the bowel, and that if we will remove that obstruction, so that the fecal matter may come down and pass out easily without any resistance at the anal margin, it will not bring tension to bear upon the sutures and break them loose. With that point in view I have in the last four cases made a complete section of both sphincters, cut them clear through, and stretched the anus well before I sutured the gut; I believe that has been the cause of my success in the last two cases of end to end suture in which I have no fistula and perfect union.

I want to correct Dr. Hamilton with regard to the remarks made by him concerning Dieffenbach's operation. In my paper I simply quoted authorities upon rectal diseases with regard to Dieffenbach's report of absolute cures. I think if the Doctor had read the reports of Dieffenbach's thirty-two (?) cases with an absolute cure of thirty, and no recurrences after five or fifteen years in the thirty cases, he would himself have some doubt as to whether all of these cases of Dieffenbach were cancer, or whether he obtained such good results. I can not conceive how a man with the methods in use at that time could have gotten such excellent results, with no fatal cases and only two recurrences. I simply state this because it is not in keeping with the results of any other surgeon of the present or past generations.

With regard to the osteoplastic feature of the operation, it seems to me the method which Dr. Murphy speaks of is more destructive to bone tissue and more liable to be followed by necrosis, and I can not see that it gives us as good an operative field as the method which I have advised. The method I spoke of is done very quickly, within two minutes from the time you begin the operation you have the bone flap out with full view of the whole part. I have seen no case of necrosis following this procedure and there has been firm union in every case, and the anesthesia and hyperesthesia which follow occasionally soon disappeared and the patients have absolutely no unfavorable symptoms or bad results from this part of the operation.

I want to refer here for a moment to a paper which happily

came into my hand after I had written my own paper. First, a student in the College of Medicine of Paris, seems to have had the same idea of working up this subject that I did and I might say here that most of my paper was prepared with the intention of reading it last year at the meeting of the AMERICAN MEDICAL ASSOCIATION. In July last Finet read his paper in which he collected 341 cases from the work of German, French, and some few English surgeons. The mortality, as I have said with regard to the continental surgeons, is considerably higher than that which I have reported, due to the fact that the surgeons over there do not limit themselves to the removal of growths that do not affect the adjacent organs. They take out everything that is connected with the cancer. As Dr. Ferguson has said, they take out the bladder, urethra and ureters, and subsequently report that the functions are all normal, or nearly so. I do not believe these operations are justifiable.

I am not here to speak of my own cases particularly. I have operated eight times for cancer of the rectum, and have had recurrence in one case, and one death. To my mind the operation has reached that stage of assurance with regard to a cure, that if the patient is operated upon at the proper period the results in most cases will be successful, and it seems to me it should be the moral obligation of every physician and surgeon to examine the rectum of every case which presents intestinal symptoms and to advise that man without hesitation that if the cancer has not existed over nine months to have it removed immediately.

I thank you, gentlemen, most cordially for listening to this thrice-told tale.

SURGERY ONE HUNDRED YEARS AGO.

AN HISTORICAL STUDY

BY DR. GEORGE FISCHER.

DEDICATED TO THE GERMAN SURGICAL ASSOCIATION.

TRANSLATED FOR THE JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION BY CARL H. VON KLEIN, A.M., M.D.

CHAPTER III.—AT THE UNIVERSITY.

(*Continued from page 600.*)

A similar secret traffic was carried on in England; at least it is known that John Brown, to earn his daily bread, at first translated theses into Latin, and later wrote them, charging for the latter ten guineas and for a translation five guineas.

Is our own time free from this fraud? Without doubt the great bulk of it was abolished, through the promotion system, although only twenty years ago some of the German universities had the reputation of conferring the Doctor's degree for money, upon presentation of a thesis, without troubling themselves as to the author. During my own studies a certain dentist wished to become a doctor and had a clever thesis written, which he submitted to a philosophic faculty. It was sent back to him because they could not credit the author with so thorough historic knowledge. Thereupon a chemist wrote for him a thesis on a platinum or other combination. That worked; a doctor's diploma followed, and probably the author of the work wears to this day the gold watch chain presented to him by the dentist. In 1874 the "Philadelphia university" conducted a regular traffic in Doctors' and Masters' diplomas! They maintained in England a well-paid agent, who anonymously advertised the Doctor's degree in the newspapers. A Berlin medical assistant received from him the following letters: "Dr. P. F. H. Van der Vyver, Jersey, England, June 5, 1874, to Mr. F. in Berlin. I have the pleasure of informing you that I am the agent of the trustees of the American University at Philadelphia, which is one of the most celebrated in the United States. I can supply you with a parchment Doctor's diploma from this university, issued in your name, in the Latin language, upon payment of the total fees and expenses, amounting to 160 Prussian thalers. Anticipating your reply by return mail I will upon request give you further information." There is appended to this letter a request that it be privately circulated among the students and candidates, and the last lines contain the following remarks: "It is very important for those persons in Europe whose wish to obtain any degree from our university without being personally present, to take note that they should impart their desire to Mr. P. F. H. Van der Vyver, Doctor of Law, Jersey, England. Philadelphia, July, 1873." This American swindle, which lasted several years, appears to have been vigorously suppressed after a suit had been vainly prosecuted against it for two years. The value of the Doctor's title has depreciated considerably by reason of these cheap doctors. How little weight is given today to the title of Doctor of Medicine appears from the fact that after the national trade regulations had made the permission to practice medicine independent of the Doctor's degree, out of 314 approved candidates in medicine in Prussia in 1874–75, 125 had not obtained a Doctor's degree.

The administrations could no longer close their eyes to these irregularities. Maria Theresa commanded (1753) that candidates be examined with greater attention and without any favor, "that the public may be given able practitioners, well trained in the science of medicine, and the life of patients not be entrusted to an untrained physician for the lowest price." In Prussia (1725), beside graduation those seeking permission to practice were required to finish a course in anatomy and to elaborate one case, in the Latin language; later (1789), an examination in the German language was necessary. Then greater severity was enjoined upon all the Prussian faculties, failing in which, they must forfeit their graduating fees. The matter did not rest with this admonition; the young doctor was required to undergo a second examination before he was allowed to practice. The Prussian state-examination (*Staatsexamen*) originated in 1798, in which each candidate must go through a course of anatomy, medicine, surgery, clinics and pharmaceutics before the examination commission in Berlin. The examination lasted from eight to ten weeks and cost twenty-eight thalers. Hufeland was loud in his praise of this regulation. He said that if many universities were less negligent about examinations and the conferring of the Doctor's degree this precaution in regard to graduated physicians would not be necessary; but, unfortunately, this title, once so honorable, appears so no longer, and the whole graduation has degenerated into a mere formality. The theses became, generally, worse. In 1726 the medical faculty was requested to take care that not so many grammatical errors appeared in the theses, so that they would not be critcised by foreign faculties.

Austria under Joseph II. in 1785, did away with theses entirely and substituted for them a practical examination. (At the same time the degree of Master of Philosophy for medical studies was abolished.) This order, copied in Mainz, was maintained only about two years, till 1810, and the theses were again introduced in the empire. Everwhere in Europe they had to be written in Latin. This pedantry, which has not yet entirely disappeared, was first opposed in America, where the University of Pennsylvania Medical Department gave permission in 1790 to compose the theses in either Latin or English. In the same year graduation theses appeared in the modern languages.

The *ceremonies* at examinations and graduations were very much modified, in comparison with earlier times, but they were everywhere very much of a masquerade. In Austria, until 1784 the candidate, quaking with anxiety, wore a black velvet mantle of especial cut and a round, queer-shaped hat, which had once been black, but which was usually faded by the perspiration of the candidates, just right for the head of a harlequin. The examination developed into a pleasant *déjeuner*, for which the candidates who were examined together arranged. Fine wines and pastry were there in abundance and sufficient to refresh professors and students. The former grew more indulgent, the latter more assured, all stiffness vanished. The Prague professors were forbidden these feasts after 1753. A ducat pressed into the hand of the botanic gardener secured to the candidate the specimens of plants which were submitted; as a precaution they were supplied with a paper upon which the necessary symbols were written. The famulus had previously whispered in the ear of the student upon what points the master expected to examine him (*Reichsanzeiger*, l. c.). In Pavia (1787) the affair was conducted as follows: If the candidate had, after two years' study, passed his examination in the philosophic courses, then in order to become a Doctor he was given a written and oral examination by seven professors of medicine. First he had a little conversation with reference to the public exercises, then followed a two hours' examination. If he passed, the beadle called into the next room where canditate waited with his friends, "approbatus." The candidate entered and thanked them with a bow. On the following day was the written examination. Shut up in a room of the university building, he must answer two questions, for which he was allowed two hours' time and a certain number of books from the university library. When the time was up he read his paper aloud, and went out. Again the examiners balloted as to whether a second approbatus should be called. Then the dean specified a day for the graduation; but previously the thesis must be prepared, which, if approved, was printed and three days before the graduation was posted in the university building. The day came, on which the candidate defended his thesis, in which professors or doctors, as he chose, opposed him. The judges clapped their hands and he rose. Then sounded for the third time the "approbatus," the trumpters standing below, blew their horns and thus announced the victory to the crowd. The candidate approached the bishop, heard the confession of faith and kneeling took the oath that he was a catholic. Then the dean came forward from his chair, addressed the honoratissimus or doctissimus candidate, embraced the fortunate one and gave him the Doctor's kiss. Amid the blare of the trumpets the Doctor's cap was placed upon his head.

Men were intolerant enough to make the conferring of the Doctor's degree dependent upon *religious belief*. The most of this fell upon the Jews. One Dr. Schülte in Cleve wrote in 1745 under the name of J. H. Sagittarius, a work in which he sought to prove: 1, that the graduation of a Jew as Doctor of Medicine was against the Christian religion, and was a dishonor to the science of medicine; 2, that the Jewish medicine was infamous and not to be suffered among Christians; 3, that a Christian could not allow himself to be treated by a Jewish physician without committing a great sin. Finally in the year 1784 the medical faculty in Jena, which for a long time had been allowed to announce as doctors only students of the Augsburg confession, received permission to admit Jews for study and for graduation. In Austria bigotry weighed like an incubus upon the state. Not alone because there in 1726 the Jews were first permitted to employ Christian physicians, barbers and obstetricians, and the Jewish apothecaries could sell no medicine to Christians and the Jewish surgeons could treat no Christian, upon pain of the severest punishment; not alone because even Protestants were oppressed in unheard-of ways when they were permitted to study medicine but not to be graduated as doctors, but even the conscience of Catholic physicians and patients were shackled. Doctors and professors were obliged in 1777 to take the sacrament on Holy Thursday, and to call the attention of any patient who aroused suspicion in anyway, to the sacrament, not delaying later than his third visit. If the patient hesitated to have the sacrament administered, then the physician was obliged to discontinue his visits, if he did not wish to lay himself liable to severe punishment, even to forfeit his license. Up to the reign of Joseph II., with which the sun began to shine upon the empire, only Catholics could become doctors, because they were obliged in their oath to swear by Mary's immaculate conception and by the saints. As the Protestants did not consent to this they acquired only the title of licentiates or master. Joseph II. abolished (1785) everything pertaining to graduation which had a religious bearing, and allowed the confession of faith as well as the oath of obedience to the Pope to fall into decay. From that time on any Protestant could be graduated without condition and was required to take only the usual Doctor's oath. In Vienna, Jan. 24, 1789, a Jew, Beer Joss, first received the Doctor's title.

In order to practice, an Austrian had to be graduated from a native university and if he received his degree from Vienna or Prague he had the right to settle anywhere in the whole monarchy, while those graduated from other universities could practice only in the province where they received their degree. They, together with their children, as well as the accredited surgeons, bath-keepers and apothecaries, were exempt from military service in the empire, in the second half of the century.

The medical faculties of Germany today do not care to know much about *women doctors*, and most of them, with the exception of the Swiss, exclude from their lecture rooms the wandering women students, most of whom are Russians. But a hundred years ago the sentiment was different. The daughter of the Quedlinburg physician, Leporin, was instructed in medicine from her youth up. She attended Halle regularly as a student in the medical department in order to hear the lectures, and was recommended by the king of Prussia to the faculty there for graduation. Meanwhile her marriage with the deacon, Erxleben, delayed the examination. She passed it with honor, and on the 12th of June, 1754, was made Doctor in Halle. Her thesis treated: "Quod nimis cito ac jucunde curare sæpius fiat causa minus tutæ curationis." At her graduation Dorothea delivered a Latin address, took the usual Doctor's oath, and thereupon received permission to practice. Until her death she pursued her practice in Quedlinburg, and won the utmost confidence of the people. In the highest cir-

cles also there were found learned women; the Duchess von Württemberg publicly opposed the Tübingen professor, Mauchard, in a disputation of an hour's length. At this time in France they went even a step farther; the medical faculty in Paris chose the learned Countess von Voisenon as their president, something which had not happened even there before, and she took the place of honor amid general applause. In the beginning of our century two women of the family of Siebold became doctors. Regina Josepha, the wife of Damian von Siebold, received the degree of Doctor of Obstetrics from the University of Giessen, in 1815. Her daughter Charlotte, after taking the prescribed studies, under Osiander, passed the examination in Giessen in 1817, wrote a thesis, "The Conception Outside of the Uterus," and after a public disputation received the degree of Doctor of Obstetrics. Her reputation became so great that she was called to London in 1819 on the occasion of the birth of the present queen.

No study in the university interests us more in respect to surgery than *anatomy*, since this, as the basis of surgery, must exercise the greatest influence on its development. From antiquity down, the great reverence of the people for the bodies of their deceased relatives and friends has been an almost insuperable obstacle to the dissection of human bodies; indeed Boniface VIII., who became pope in 1294, imposed excommunication as a punishment for dissecting. Although in the year 1315, for the first time in Italy, cadavers were publicly dissected, and the brightest men battled against the foolish prejudice, yet all to no purpose. Therefore, anatomic instruction was retarded for centuries in its development. In Vienna in the year 1404, the first anatomic dissection of the body of a man was conducted by the Master Galeatus de Sancti Sophia, in the city hospital, and lasted one week. Physicians and laity were admitted. An admission fee was collected and given to the faculty, who purchased a new seal with the money (an ox's head and beside it St. Luke with the open book). It was twelve years later when Vienna witnessed the second anatomic dissection, and it was not until the year 1452 that the rector and consistory permitted the dissection of a woman's body. As cadavers were so difficult to obtain, they used swine and sometimes dogs. So all the great anatomic discoveries of the sixteenth and seventeenth centuries were made only on animals. The dissection of swine (which at the end of the fifteenth century were bought by the Dean of Vienna for 17 pfennigs), prevailed in German, French and Italian universities. It is known that Vesalius, who with his own hands robbed the churchyard or had his pupils do it, sometimes supplied his need with dogs, and (1536) a professor of anatomy in Paris had not during his whole life dissected a human body, but had used a great number of dogs and swine. The great taste for painting and the high development of this art did more for the study of anatomy than all ancient literature. It is known that Michael Angelo removed the skin from the bodies of men and animals in order to study the position of the muscles; this is also true of Raphael and da Vinci, who drew muscles and bones. Unfortunately, the prejudice of the people persisted. When Professor Rollfink, in Jena in 1629, asked for the cadavers of criminals for dissection, the people were so wrought up that they stoned him on the street, and the poor culprits before their execution, out of fear of the anatomic knife, tearfully implored the single favor that they should not be "Rollfinked," that is dissected. The frenzy of the people continued the same at the beginning of the eighteenth century; they attacked the anatomists in Lyons and Berlin, and persecuted the professors to the point of death, for the people were under the delusion that they dissected the bodies of living men. A. von Haller had obtained an exhumed cadaver in Paris and in his preparations he was discovered by some over-curious person, who had made a hole in the wall in order to see what was going on in the room. The police being notified, Haller could only save himself from the galleys by flight. He relates that the chemist Beccher was obliged to flee from Würzburg because he had opened a cadaver. Even in the sixtieth year, the prejudice was so great that Professor Kaltschmidt, in Jena, found it necessary to set the university seal upon a cadaver when it was received, because otherwise the students dare not touch it for fear of being considered dishonorable. For the same reason they sent the syndic, or the professor of anatomy, to the place of execution, in order to seal the bodies immediately after death.

There were anatomic amphitheaters in Germany, in many cities, outside of the universities, and these served for the instruction of the barbers. Halle was the first German university to which such an institution was annexed. Upon the advice of Holtzendorff, Berlin received from King Frederick William I., in the first year of his reign, 1713, its amphitheater, which was used in the winter for the training of military surgeons and for anatomic lectures and demonstrations, and in summer for surgical instruction. Under the leadership of the Society of Science—the present Academy of Sciences—it rose so rapidly that in the second half of the century it was among the best in Europe. Its collection of anatomic specimens was very considerable, and contained the skeletons of the two largest soldiers of Frederick William I.; all misborn creatures in the whole country had to be sent to the anatomic amphitheater in Berlin. Hanover followed in 1716, where in connection with the collegium anatomico-chirurgicum, an anatomic chamber was opened which received the bodies of criminals. When a cadaver came in (in the year 1721 only four in number) a public announcement was made inviting the laity to participate in the instruction. The fee for each dissection was twelve mariengroschen, for all together, two thalers. If the dissection was upon a female cadaver the price was increased because of the greater crowds; it cost twenty-four groschen to see the uterus and fetus of a woman who had died pregnant. The Austrian government took the initiative in the improvement of anatomic instruction and commissioned the faculty to deliberate as to how opportunity could be created for the young doctors, students and obstetricians to get better practice in "anatomic and surgical operations;" whereupon the Vienna faculty in 1718 recommended the erection of an anatomic amphitheater, together with a theatrum chemicum and a hortus botanicus. However, a special professor was not appointed, but the supervision of the anatomic amphitheater was committed to the professor of theory. Not until 1739 was the first chair of anatomy founded in Vienna. An anatomic amphitheater was dedicated in Breslau in 1745 and in Dresden in 1748, upon the founding of the collegium medico-chirurgicum. At the opening of the last named amphitheater, when the body of a decapitated woman was the subject of demonstration, the crowd of spectators was so extraordi-

narily large that on the following day the demonstration was repeated for ladies, when some did not shrink even from touching the cadaver. Hamburg built an natomic amphitheater in 1771.

During the whole century the German medical schools experienced a *great scarcity of cadavers*, inso-much that many had at their disposal only three or four in a year. This was owing to the prejudice among the people, the lack of hospitals, and the abolishment of the death penalty under Joseph II. and Catharine II. The circumstance that many criminals were sentenced to hang for a long time on the gallows, or to be buried under it, that some suicides were dissected by the authorities, increased the calamity. So few cadavers came to hand in Göttingen that A. G. Richter, as professor of surgery, instead of demonstrating his operations on them, is said to have illustrated the various incisions by the only method at hand, mostly with the shears and a piece of paper properly cut, and his amputations with a large turnip. Among the students there was naturally great distress. Their student days passed away and in winter they scarcely saw one cadaver, so that there remained to them only the atrocious method of exhuming the cadavers in the stillness of night, with or without the knowledge of the gravedigger. It was a misfortune for them if within the neighborhood of the university, from time to time, at least a few men were not beheaded. Abo, Finland, was especially celebrated in anatomy on account of its wealth of cadavers. There all persons who held lands under the crown, or enjoyed pensions, must bequeathe their bodies at their death to the anatomic amphitheater. The scarcity of cadavers has not ceased even in our time in many of the smaller universities; for as late as 1866 the laws in Mecklenburg-Schwerin were broadened in order to supply the University of Rostock with more cadavers. Charts had therefore to be used as substitutes, and the farther back in the century one goes the more closely does he find anatomic instruction limited to an elaboration of the anatomic charts of Vesalius, Fallopius and Eustachius. Later came the incomparably beautiful plates of Albin, on the bones and muscles, Haller's copper-plates of the arteries and Mascagni's lymph vessels. Meckel had illustrated the nerves, Zinn the eye, Scarpa the organs of hearing, and W. Hunter the phases of pregnancy. As a complete atlas, the only thing which they had at that time were the plates of Eustachius of the sixteenth century—the first anatomic copper-plates which we possess. After these had been regarded as lost for a hundred and fifty years, the pope presented them to his body physician, Lancisi, who first made them public (Rome, 1714). The best edition was prepared by our countryman, Albinus, who republished the plates after two hundred years, having had them redrawn. In 1793 Loder began to publish a large new atlas of the entire human body.

As early as the first half of the century different measures had been taken to provide against the scarcity of cadavers. The government of Saxony ordered in 1716 that the bodies of all criminals in the vicinity of Leipzig, executed by the sword or drowned in a sack (Säckung), should be furnished to the dissecting room at the cost of the faculty, and that all such bodies within a radius of four miles from Dresden should be supplied to the anatomic amphitheater in that city (1752). These regulations were extended to cover also the bodies of those who had hanged or drowned themselves, or died in prison; on the contrary, the bodies of paupers who had died in hospitals, were given only for the purpose of sections and not for complete dissecting. The abuse of allowing the bodies of hanged malefactors to rot, by which the whole neighborhood was tainted, was still very widespread until measures were taken to prevent the stench and to send the bodies to the dissecting rooms. Berlin had (1719) the bodies of the criminals, suicides and paupers, and later those from the Charité at its disposal; beside all these from within a radius of three miles, the dissecting room in Göttingen (1736) received the bodies of prostitutes and their illegitimate children. In the Vienna anatomic amphitheater they were somewhat negligent. One tried to throw the work on to another. When in 1742 the administration complained to the faculty that in that year not a single anatomic public demonstration had been given, although there was no lack of professors, demonstrators and substitutes, they excused themselves with the reason, among others, of a lack of cadavers. Immediately there came a royal order that all who died in the Burgher Hospital, Beckenhäusel, and St. Mark's Hospital, together with all the bodies of criminals executed in Vienna and its vicinity, should be delivered gratuitously to the university. This decree was in 1749, through Van Swietan's petition, extended to all the hospitals of Vienna, and it became their duty, in a dearth of malefactors, to supply the bodies of all paupers for anatomic and surgical operations; the city magistrate, under whose direction the public hospitals stood, protested. This kind of decree of the state was of the greatest importance in view of the mania of the people, and served to dissipate their mistaken ideas.

From foreign countries also there came a fresh stimulus. This consisted in the enormous progress of the natural sciences in France, which some thirty years before the revolution was made by all classes. The spread of the movement was at that time so rapid that the sciences were considered an essential groundwork of a good education, and entirely superseded the old classical studies. You would seldom find anyone in France who understood Greek, but all the lecture rooms of the physiologists and chemists in Paris were full. When A. Petit opened his anatomic lectures in 1768 the amphitheater was overcrowded. The sessions of the Académie were so popular in 1779 that after a few years the number of admittance cards had to be diminished. Even gentlewomen hastened there in order to have the composition of a mineral or the discovery of a new salt demonstrated. Whatever came from Paris was imitated in Germany. No wonder then if soon after, in the year 1780, the Duke von Weimar called Professor Loder from Jena to give at court an anatomic demonstration concerning the brain, and the Duchess von Weimar journeyed to Jena especially to attend a clinic demonstration on some children in the anatomic amphitheater. Perhaps Goethe's influence was a factor in the movement. When crowned heads occupy themselves with that kind of amusement, it can not fail to have a favorable reaction upon the people.

The prejudice against dissection was not less strong in England than in Germany, and there it was held over the criminal to sharpen his penalty. In the year 1779 it happened in London that two young physicians who had bought a cadaver to dissect it at home, had their windows broken open at night and them-

selves denounced as hangman's servants; a third had his house attacked by the mob and scarcely escaped out of it with his life. In spite of the great number of executions in London, not enough cadavers were to be had, so they were surreptitiously stolen from the graves and with great secrecy sold to the anatomists. The dissection could be performed publicly only on the bodies of murderers, which had been supplied to the College of Surgeons and were to be used for the lectures. The usual price for a cadaver was from two to five guineas, sometimes even more, because those who exhumed the bodies were in danger of being caught. (Anatomic specimens were enormously expensive; in 1785 at the auction of the Surgeon Hawkins three lymphatic glands injected with quicksilver, and an almost complete mounted skeleton which J. Hunter bought, were sold for eighty-five guineas.) In Edinburgh the prejudice against dissection appeared even stronger than in London, and scarcely a single cadaver a year was available, so that the instruction in preparations was almost discontinued. The younger Monro is said at one time to have given one hundred and twenty-four lectures over one single cadaver! On the other hand the University of Leyden and above all, Paris, were more fortunate; the hospitals were obliged to furnish so many cadavers to the latter university that anatomy could be studied to excellent advantage. The students there demonstrated and prepared the muscles in turn. Copenhagen obtained in 1736 an amphitheater for anatomy, with the cadavers of the fortress laborers and other prisoners. Moscow obtained a similar one in the year 1764.

Pathologic anatomy, as well as descriptive anatomy, suffered limitations through the prejudice against dissection. The rulers in Europe indeed set a good example by allowing the bodies of their own relatives to be opened. The Italians seldom opposed dissection and although the intelligent Germans and French followed them, there remained among the German people, to the end of the century, a strong prejudice, which the physicians combatted in the newspapers. Thus Baldinger thought many otherwise very intelligent officers would not have fought in the Seven Years' War and most of the soldiers would have run away if they had supposed that after their death their bodies would be dissected. The soldier would rather allow himself to be trampled by horses on the battlefield than to allow the dissection of his body. Exceptions were few and were found mostly among the more or less intelligent regiment commanders, although permission was given to make dissections in the Prussian field hospitals. Among the Austrians the physicians were obliged to dissect important cases, to report concerning them to the recording surgeon and to send specimens to the Medico-Surgical Academy in Vienna. In Russia the Greek Catholic and the Hebrew families never gave permission for dissections, therefore in the hospitals at St. Petersburg and Wilna only the bodies of those of other religions were available. Even as late as the last half of the century, many women died in the third or fourth month of pregnancy from simple retention of urine and no physician was able to discover the cause of this trouble. Sections first taught that the flexion of the uterus caused this trouble, which has since been remedied by mechanical means. Pathologic collections were somewhat rare. When Peter Frank was a teacher in Bruchsal he made such a collection for the surgical school there, and later also for the public hospital in Vienna. Joseph II. bought for 30,000 guilders a collection of the most beautiful wax specimens of the human body, from the famous Abbé Felix Fontana and the anatomist Mascagni in Florence, had it brought to Vienna on mules and presented it to the Medico-Surgical Academy. In Austria in 1811 every medical and surgical institution of learning was obliged by law to establish a pathologico-anatomic cabinet and the professor was bound to prepare specimens. The growing popularity of dissections in the last decades contributed greatly to progress in pathology and surgery, because it made clear the nature, seat and origin of many diseases hitherto not at all understood.

The anatomists paid almost no attention to the practical needs of the surgeons. As this history has previously mentioned, there existed in Germany in the eighteenth century not a single text book in surgical anatomy, except the work of J. Palfyn, which appeared in Dutch in 1718 and was translated into German in 1760. The first complete, although very brief work of this kind, is said to be the Handbook of Frederick Rosenthal, published in the year 1817. This is incorrect, in so far as the Hanover physician, Otto Just Wreden, wrote a surgical anatomy in the year 1736, which I believe was the first in Germany. The full title of this forgotten and unimportant book is "Brief and clear instruction in the parts of the human body, with respect to their structure and position and also their functions; what concerns the solid and the fluid parts and also the soul. Dedicated to the best interests of surgery. Hanover, second edition, 1743." Wreden was director of the anatomic room in Hanover and instructed the surgeons. He served as field physician with the royal troops on the Rhine, and there in his leisure hours he wrote that book whose second part he called "Anatomy in particular," because everything which had no relation to surgery was left out of it. Wreden saw how difficult it was for the surgeon to find his way in anatomy and how even the best among them made erroneous diagnoses because, although they understood the separate muscles, they did not know their position with respect to one another. He published the descriptive anatomy first and gave 140 pages to a topographical description of the human body; at the end the physiology followed.

Under the conditions above described an exhaustive study of anatomy was not to be expected of German students. For the most the proper method was lacking, there was little opportunity to prepare specimens and they relied principally on charts. There was scarcely any idea in Germany of the useful application of anatomy to the practical sciences, so that not only was the groundwork lacking to the students in surgery, but even the fertilizing kernel of this science was extracted. In the first half of the century conscientious surgeons, by reason of their lack of anatomic knowledge, scarcely trusted themselves to perform the simplest operations. Partly in consequence of this fact many life-saving operations were neglected in the great German hospitals. It was the itinerant mountebanks who considered the most difficult and delicate operations as their peculiar heritage and although they sometimes murdered the people, yet, all things considered, they were in a certain measure justified as operators.

(To be continued.)

SELECTIONS.

Deep Lesions Produced by the Roentgen Ray.—It is seldom that an issue of the *Bulletin* of the Johns Hopkins Hospital does not contain at least one paper of unusual merit and originality. The current issue has for its *pièce de résistance* an admirable illustrated article on the effects of the X-ray upon osseous structure by Mr. T. C. Gilchrist, Associate in Dermatology at the Hospital. The author finds 22 recorded cases of superficial effect, but his own is the first in which the deeper effect of the X-ray have been demonstrated by a radiograph. His patient, a male, was an X-ray operator, the eruption or dermatitis occurring on the dorsal surface of the right hand, wrist and lower fore arm, after frequent and long continued exposures. There was hyperemia and swelling of back of hand, inflammation of hand and fingers; the integument became dark brown in color and later exfoliated. There was no pain at first, but later the pain was so severe as to cause the patient to stop his work. There were aching, shooting and throbbing pains. The bones of the hand were very tender on pressure, particularly the first phalanges of the index and second finger and the carpal bones. The movements of the hand became so limited that it was practically useless for some weeks. Sensation was also much impaired, but after exfoliation occurred it recovered again, but only gradually. Recovery of all the lesions has been very gradual indeed.

The photographs have revealed what has never been observed before, viz., a distinct osteoplastic periostitis, and probably an osteitis, particularly of the first and second rows of phalanges of the index and second fingers, also of the heads of metacarpal bones of the same fingers, and judging from the symptoms, even of some of the carpal bones.

This then accounts for the severe symptoms, the aching, throbbing and shooting pain which prevented sleep. The density of these bones also has been increased, showing that even bone tissue has been effected.

A complete demonstration is thus afforded of the powerful, piercing character of the X-rays, and the severe, painful symptoms which have been described by other observers are probably due to the inflammation of the periosteum, and possibly the bone, besides the softer tissues.

This inflammation has also extended into joints, which would explain the loss of movements, and pain, when they could be used later.

As the result of these observations, it proves that the X-rays are even more powerful than have been generally thought, that the deleterious effects can in some cases be quite serious, and that the cutaneous manifestations are not the most severe of the lesions, but those of the deeper tissues, and particularly of periosteum and bones, being more severe.

He consulted with Professor Ames, Associate Professor of Physics in the Johns Hopkins University, who, after reviewing all the facts of the case, kindly wrote as follows concerning the present theory of the X-rays:

"The radiation in an 'X-ray tube' may be divided provisionally into three classes: ether-waves, which may have wave-lengths from 150 to 800 mm. approximately; kathode rays, which undoubtedly are streams of matter, electrically charged; X-rays, about whose nature there is no conclusive evidence at the present time. If the walls of the tube are thin enough and of suitable material, all these radiations will emerge and pass into the surrounding air. It is a matter of doubt if the kathode rays observed outside the vacuum-tube are the same as those inside; but the inner ones undoubtedly cause the outer ones. There is no evidence that X-rays carry with them particles of matter, or that they directly cause a stream of particles; in fact, all known facts seem to point to the belief that they are ether-waves of extreme shortness."

It will thus be seen that the opinion expressed here does not make it possible for the X-rays themselves to produce such deleterious effects as have already been described, but Dr. Ames mentions the fact that the kathode rays are undoubtedly streams of matter electrically charged. Here then we have some possible grounds for the theory that the lesions may be due to the entrance of particles (platinum in our case) into the injured tissues, and that the kathode rays which accompany the X-rays may be the cause of the trouble, and not the X-rays themselves.

On clinical grounds there is considerable support for this, at first sight, improbable theory. If the lesion extends at all deeply, it leads to the formation of ulcers, which are extremely intractable, and they may be due to irritating particles still present in the tissues.

We do not think that the possibility of injury ought to deter one from using these wonderful rays in surgical work, because only a few have been affected out of thousands who have been exposed to them. By keeping, as Thomson says, some distance away from the rays, injurious effects will hardly follow their use, and when the exposure is for a short time, unless, as may happen in all other diseases, idiosyncrasy plays a prominent part.

When the hand is viewed two or three times near a new Edison bulb, through a tungstate of calcium screen, after four or five minutes a tingling sensation is distinctly felt throughout the dorsum of the hand; this symptom lasted for ten or fifteen minutes and passed away without any further results. It occurred to him that X-ray operators and experimenters should expose to the rays the palmar surface of the hand, which is protected by a much thicker horny layer, rather than the back of the hand, which is much less protected.

In conclusion we would strongly advise all X-ray operators and experimenters who develop any special idiosyncrasy, to abstain from their use if they find that the slightest deleterious results follow an exposure to them.

Nodal or Bursal Pain.—In *Guy's Hospital Gazette*, January 16, Mr. Golding-Bird treats of this subject, showing that antiseptic surgery has effected a reduction in the number of cases, as well as in their duration. Pain, he remarks, is always the most important element in the case, from the patient's point of view; but we all know it is a subjective, not an objective one; not a fact, but a feeling. You can not dispute facts, but you can dispute a pain in a number of cases. There is no doubt that the patient's personal equation largely enters into the question. Many people seem to have no "inhibitory" power over their feelings; consequently it has been the fashion to class such cases together as "hysteric," whether the subject be male or female. I consider that antiseptics have helped to alter this state of things, and the use of them has given "hysteric" people their character again; for the surgeon, without risk, explores the seat of pain, and at times drops upon a cause he never suspected. A. B., female, aged 30 years, nurse from a provincial hospital, was last year a patient in Guy's, suffering a great deal of pain in her hip without obvious cause. She was not of the hysteric type. Cases such as this are common in general practice, and one must be carefully on one's guard against thinking too lightly of them. The history of this case was that four months before admission the patient had entered a room during the night while a portion of the flooring was raised for repairs. She had fallen with one leg through the floor and had bruised her hip severely. She went on with her work, but at last persistent pain made her seek hospital treatment. Her hip was flexed, she had spasmodic pain in thigh, and had to take morphia. There was no limitation of movement. When first seen as out-patient the diagnosis of hysteric hip was given, because passive movements became greater in amplitude when the patient's attention was diverted, and because nothing objective could be discovered. Patient was examined a fortnight later by the surgeon, who confirmed the diagnosis so far that the movements were all perfect, and this

thought arose: Is this an exaggerated case which would only be cured by substantial damages paid into court? For when you suspect that a patient wants to take himself into court you should be exceedingly careful, and may discount some of his statements. In this case there was nothing wrong with the joint, and no swelling over it. It is true that there was a certain amount of tenderness in the groin, but this was totally unconnected with the movements of the hip-joint. The great trochanter was not thickened, but on its outer side I hit upon a tender area of the size of a half-penny, which was exquisitely painful and gave a creak on rubbing. This left no doubt in my mind, and I diagnosed bursitis under the gluteus near its insertion. The treatment available was either counter-irritation or operation. The latter method was chosen, and making an incision over the tender spot, I entered the bursa, which was found to be large and spread out under the gluteus maximus. This was scraped out and irrigated with perchlorid and closed up again. Immediate union was obtained and patient was entirely free from all pain and seemed on her discharge quite cured. With regard to the question of connection between bursal and local or nodal pain, it is interesting to note a point on the history of osteomata, which, as you know, are found commonly on the long bones, as the tibia and femur in positions corresponding to the epiphyseal lines. A boy will be brought up exhibiting an osteoma, which his mother will declare has only existed for four or five days, whereas it is more likely to have been present as many years. On manipulation, you will probably get the characteristic creak on rubbing the top of the boss. Whenever a bursa becomes developed on a prominence pain begins synchronously, but osteophytes may grow from the femur under the vastus internus, and may attain a very large size before there is pain; and this, when it comes, is either due to over-stretching of fascial coverings and the appearance of a bursa. Counter-irritants will have only a temporary effect in these cases, and the best treatment is to cut down and remove the tumor.

PRACTICAL NOTES.

Contraindications for Trional.—L. Kæmpffer states that patients with cancer who have reached an advanced stage of cachexia, are unable to bear the usual dose of trional (1 gram), which produces distress, pain, cardiac palpitations, and acute agitation, amounting to delirium in some cases and continuing all night.—*Semaine Mèd.*, February 17.

Concentrated Tincture of Iodin for Cavities.—Dr. A. Ricci has been using a tincture of iodin much stronger than that usually employed: (1 part metallic iodin to 5 parts alcohol), in the treatment of the cavities left after operations on glands, bones, articulations, etc., and announces that he has found it exceedingly effective in promoting healthy growth of the tissues—*Semaine Méd.*, February 17.

The Sclerogenic Method Applied to Tuberculous Osteoarthritis.—Ziématzky combines Lannelongue's injections of chlorid of zinc with Bier's bandage, and has been very successful with them in the early stages of tuberculous osteoarthritis, when asepsis is easy. More advanced cases are not adapted to the treatment.—*Presse Méd.*, March 3, from *Rev. de Chir.*, No. 8, 1896.

Ott's Method of Recto-vaginal Exploration.—Two years of this method have convinced its author of its extreme value and he therefore recommends it again to the profession. The middle finger is inserted in the rectum and the index of the same hand in the vagina. The combination of these fingers with the other hand on the abdomen, enables the parts to be explored with great accuracy.—*St. Petersburg Med. Woch.*, No 1, 1897.

Expectorant and Soothing Potion.—Syrup of ipecac, 8 to 10 grams; syrup of tolu, 20 grams; potassium bromid, 1 gram; brandy or rum, 20 grams; linden-water, 75 grams. One teaspoonful every two hours. This potion is rarely nauseating and never acts as an emetic. The amount of ipecac should be decreased to 5 grams for children, and the alcohol and bromid should also be diminished according to the age.—A. Espagne, *Semaine Méd.*, February 10.

Method of Determining the Amount of Deafness.—We notice in an exchange that a simple means to determine the amount of deafness is to insert a tuning fork in the mouth of a Y-shaped tube and place one of the branches in your ear, and the other in the ear of the patient. The tuning fork is then struck, and the one that ceases first to hear its vibrations tells when they become inaudible to him, while the other notes the length of time until he ceases also to hear them. If the physician has tested his ear previously with normal persons and others, he knows exactly his own hearing capacity and whether it belongs to the category of good, medium or bad, and uses this for his standard.

General Bath after Operation on the Pleura, to Wash out the Cavity.—Dr. Seemann places his patient, after operating for empyema, in a general bath for ten to fifteen minutes, thus allowing the pleural cavity to be thoroughly cleansed by the washing it receives from the water drawn in and expelled with each breath. The water is first boiled and then cooled to 34 or 37.5 degrees C., and the tub and the skin of the patient made aseptic beforehand. The lavage is much more complete and the patient not so exhausted as with the usual methods.—*Semaine Méd.*, February 17.

Oxygenated Water in Vomiting of Pregnancy.—The usual dose is 5 to 30 grams of the oxygenated water (10 volumes of oxygen), diluted with any liquid that does not alter the composition, and sweetened with sugar or lemon syrup to disguise its astringent and metallic taste. To arrest the vomitings of pregnancy, a teaspoon and later a tablespoon of the oxygenated water is added to a liter of water and taken as a beverage with the meals. The effect is rapid, but somewhat inexplicable.—*Gaz. Méd. de Liège*, February 18.

Imperfect Assimilation in Infants.—The combination of yolk of egg and olive or cottonseed oil made into an emulsion is found very useful in cases of rickets or chronic malnutrition in infants. The emulsion can be made as follows: olive oil, c.c. 60; glycerin, c.c. 30; yolk of one egg. Make an emulsion, and add one-half minim of creosote to each dram. Occasionally it is better to use a smaller amount of creosote when this agent is not well borne by the stomach. A full teaspoonful of the emulsion is given three times a day after feeding. The preparation seems to be readily tolerated, even when the stomach is irritable.—*Practitioner.*

Dulcin for Diabetics.—Dulcin (paraphenol-carbanid, discovered by Bellinblau of Warsaw), is 250 times sweeter than sugar. It is perfectly harmless in the doses in which it is given to diabetics as a substitute for sugar, and numbers of diabetic patients have been using it over a year to their satisfaction and benefit. The taste is more like sugar than the taste of saccharin. It is a crystallic powder, dissolving at a temperature of 173-174 degrees; in 800 parts of water at 15 degrees; in 50 parts of boiling water, and in 15 parts of 90 per cent. alcohol. The maximum dose for a patient has been 0.75 gram, administered in pastilles of 0.025 milligrams, equal to 5 grams of ordinary sugar.—*Journal de Méd. de Paris*, February 7.

Venesection and the Simultaneous Introduction of an Equal Amount of Saline Solution.—The reports recently presented at the Paris Académie de Médecine of the cases of uremia, pneumonia, cerebral rheumatism, pyelitis and severe hemorrhage arrested, and patients saved at the brink of death, by the withdrawal of 600 to 1000 grams of blood from one arm, while an equal amount

of Hayem's solution (7 grams sodium chlorid and 7 grams sodium sulphate to the liter of water), is introduced into a vein in the other arm, read like miracles. The saline solution evidently confers increased coagulability upon the blood, to which its effect in arresting hemorrhages is probably due.

Effect of the X-ray on the Central Nervous System.—Some interesting experiments are reported from Russia, that tend to show that the X-ray has a quieting effect on the central nervous system. A frog was placed in a small wooden box on which the ray was directed, while the control frog, in a similar box, was protected from the ray by a sheet of lead laid on top of the box. It even counteracted the effects of strychnin, as no traces of intoxication were noticed in the frog after the administration of 0.04 milligrams, and exposure to the ray, while the control frog was found in tetanic convulsions. Half an hour's exposure before administering the strychnin rendered it possible to increase the dose, without intoxication.—*St. Petersb. Med. Woch.*, No. 1, 1897.

New Five-minute Process to Sterilize Water.—Bromin added to water will kill all the pathogenic germs in it in five minutes, and the addition then of ammonia will neutralize the bromin. Schumburg, who makes this announcement in the *Deutsche Med. Woch.*, of March 4, has tested the process 200 times with river water at Berlin, to which germs of all kinds had been added, including cholera and typhoid germs. He uses 0.2 c.c. of the following solution: Water, 100; bromin, 20; potassium bromin, 20, for each liter, and then neutralizes it with an equal amount of 9 per cent. ammonia. The water is then perfectly clear, the taste is scarcely altered at all and the amount of bromin salts remaining in it is so small—0.15 per liter—that they do not affect the taste nor health. Marsh and other water containing ammonia requires a little more bromin to counteract it. He recommends the process as rapid, effective and cheap for sterilizing water for drinking in the army and on board ship in unhealthy localities and for medical and surgical purposes.

Nitroglycerin in Angina Pectoris.—Schott of Nauheim, in the *Therapeutische Monatshefte*, has found that: 1, nitroglycerin acts best in pure angiospastic forms of angina pectoris, not so well in cardiac pain due to aortic aneurysm, and is often of no use at all in the pure motor neuroses of the heart; 2, its action on different people can never be predicted; 3, if toxic symptoms appear after a small dose, it is best to discontinue the drug altogether; 4, if no toxic symptoms appear, gradually increasing doses can be given safely; 5, the form of administration is important, as Schott has found it to be most active given in a liquid medium, and combined with tinct. capsici, spir. rect., and aq. menth. pip.; 6, it acts surprisingly quickly and its action is generally at its height after two or three minutes; 7, it is generally necessary, when several small doses are without effect, to give larger doses. In some cases a single large dose acts best; 8, it is certain that much more than 1 mg. (1-65 of a grain) can be given as a single dose.—*British Medical Journal.*

Success of Itrol in the Treatment of Gonorrhea.—"Werler" announces that fifty cases treated by him with itrol (citrate of silver) were relieved of the tormenting desire to urinate, and the urethritis gradually healed, with none of the complications that usually accompany it, such as abscesses, cystitis, epididymitis, etc., and even chronic cases were arrested by it and strictures thus prevented. He also reports surprising improvement in cases of chronic cystitis, after lavages of the bladder with itrol. He commenced with weak solutions (0.025 to 200), kept in a colored bottle, and injected four times a day, increasing the strength of the solution to 0.03 and 0.04 per 200. The patient is instructed to urinate before he makes the injection, which he is to retain several minutes in the urethral canal. Werler adds that the itrol exerts its bactericidal power into the depths of the mucosa, and that he considers it superior to any other known treatment for gonorrhea, including nitrate of silver, potassium permanganate, argonin, argentamin, etc.—*Presse Méd.* from *Dermat. Ztsch.* Nos. 5 and 6, Vol. iii.

Clinical Examination of the Pregnant Woman.—Several pages are devoted in the *Presse Méd.* of March 3, to a study of this subject by E. Bonnaire, *Accoucheur des Hôpitaux.* Among the questions to be asked we notice the age at which she first walked, the profession (washerwomen are subject to edema, others to lead-poisoning, etc.), tuberculous and syphilitic antecedents, bearing in mind that pregnancy has a tendency to arouse and aggravate old diathetic conditions. When there were troubles in walking in early childhood, examination of the skeleton becomes important on account of the presumption of rachitis. He describes the technique of inspection, palpation, auscultation, vaginal and rectal exploration, ascribing importance to each in their turn and mentioning that the bladder and rectum should be empty. When the woman is very obese, certainty can be secured by lifting the uterus *en masse* with the finger on the cervix the second or third month. A non-pregnant uterus is *light*, lifted in this way.

Bicarbonate of Soda as a Dressing for Purulent Wounds.—A Russian military surgeon, N. V. Gueorguievsky, accidentally discovered in the course of treating a severe phlegmon of the index and palm of the hand, that a compress wet with a 2 per cent. solution of bicarbonate of soda will arrest pain and suppuration almost immediately and lead to complete cure. He considers its action more effective than any other antiseptic, including iodoform, phenic acid, etc., in the treatment of purulent wounds. Whenever he suspended it to resort to iodoform, or any other treatment, the suppuration recommenced, to be arrested again by the resumption of the magic compress, as his patients called it. He first incises and cleans out all the pus and then applies the compress to the cavity and surrounding parts.—*Semaine Méd.*, March 3.

Fiessinger's Treatment of Dyspepsia with Injections of Warm Water, Etc.—The "motor dyspeptic" takes a couple of injections of warm water, ¾ liter in each, and retains them fifteen to twenty minutes, an hour before dinner and supper. After the meal he reclines on a sofa and practices gymnastics of the abdominal muscles for twenty minutes, by raising himself slowly to a sitting posture and then slowly reclining again two or three times in succession, resting a minute or so, and repeating, thus exerting strong tension on the muscles. A general feeling of invigoration results; the tonicity of the muscles of the alimentary canal is increased, especially those of the stomach, as is shown by the almost immediate evacuation of gases. If there is acid fermentation the patient drinks beside, in small gulps, a series of three glasses of hot water, twenty minutes apart, sweetened or with an infusion of chamomile, vervain, orange leaves, fennel or anise. The tongue clears off and dinner is taken with relish half an hour after the last glass. The hot water is useless in motor dyspepsia alone, but is exceedingly efficacious in case of stasis and acid fermentation, and also in "hyperchlorhydrie."—*Gaz. Méd. de Liège*, February 18.

Simple Method of Measuring the Arterial Pressure.—If the hand is dipped into quicksilver, the pulse can be felt in the fingers. As the arm is further submerged, the sensation of the beat of the pulse rises along the arm until it is felt above the wrist. V. Frey has applied these facts to scientific measurement of the arterial pressure, and states that greater accuracy can be secured in this way than with the sphygmograph. As the hand is submerged into the quicksilver, there is a certain point where the pressure of the blood within and of the mercury without, exactly balance each other. At this point the circulation is arrested and the pulse-wave reflected back. If the hand is inserted into the quicksilver to the tops of the meta-

carpal bones, hand and arm extended and held as vertical as possible, the pulse is felt in the ungual portion of the middle finger and the length of the middle finger represents the height of the column of quicksilver which holds the arterial pressure in equilibrium. The hand is exposed to an even pressure all over, and the vessels are thus less liable to external disturbances than with the sphygmograph, and the test also involves a larger extent of surface.—*Cbl. f. Phys.*, January 9.

Diagnosis of the Location of the Placental Attachment by External Palpation.—Tribondani has been studying this subject at the Clinica Ostetrica of Pavia, where he is first assistant, examining the uterus of the patients immediately after the expulsion of the fetus to confirm his diagnosis made from external palpation beforehand. He announces as the result of his experience that the location of the placental attachment can be accurately determined by the following indications: 1. It is attached to the posterior wall if the tube and round ligaments are found on the anterior surface of the uterus, converging toward the top; if the anterior surface is rather flat, and if the beat of the fetal heart, the parts of the fetus and its movements, can be clearly distinguished from the front. 2. It is attached to the front wall if the tubes and the round ligaments are found on the sides of the uterus, parallel to its vertical axis, if the anterior wall is very convex, and the fetal heart and movements, and the fetus itself, are not easily distinguished from the front. 3. When the placenta is attached to the fundus, the latter is remarkably convex, almost hemispheric, and the points of attachment of the tubes and ligaments are much below its edge. 4. When the placenta is attached to the side wall, the uterus is very prominent on that side, and the attachments of the uterine adnexa are found much higher on that side.—*Gazzetta degli Osp. e delle Clin.*, February 7.

How to Avoid Taking Cold.—The *fin de siècle* toilet is not complete without rinsing the mouth and spraying the nasal passages and the throat with an antiseptic solution night and morning. By these means the upper air passages are kept in an antiseptic condition, unfavorable to the development of germs, and disease is prevented. G. Lemoine in the *Nord Méd.* of February 15, states that numbers of persons by these simple precautions have passed through the winter and rainy spring without once catching cold, although they had previously been extremely sensitive, and troubled with severe colds much of the time. He recommends to rinse the mouth with a glassful of 50 grams Labarraque's solution mixed with 1 liter of water, or the following: Thymol, 0.50 gram; alcohol 20 grams; water 1 liter. With an ordinary toilet atomizer the nasal passages and upper part of the throat should be thoroughly sprayed with some solution like the following: Phenolsalyl. 0.50 gram; chlorid of sodium 3 grams; distilled boiled water 500 grams. He adds that the teeth should be well brushed, and the fingers never put in the mouth or nose. A few menthol drops should be carried in the pocket and dissolved in the mouth occasionally. He concludes with the remark that a friend of his has always succeeded in breaking up a cold in the early stages, by taking during the first day four to six capsules or pills of essence of turpentine in addition to the rinsing or gargling and spray, with a glass of purgative water the next day, followed in a few hours by a 0.50 centigram of quinin.

Leucocytosis in Diphtheritic Infection.—A. Filé announces that leucocytosis is always associated with diphtheritic infection, its intensity proportionate to the severity of the infection. He has always found it more pronounced in cases of diphtheritic croup than in mere throat diphtheria. The leucocytosis increases with the progress of the disease, reaches its height at the crisis and disappears as convalescence supervenes. The degree of leucocytosis is almost always in direct proportion to the extension of the false membrane, and does not depend upon the age of the child nor upon the temperature. Neither is there any relation between the degree of the leucocytosis and the presence of other microbes in cases of mixed infection, but on the other hand, when the diphtheria is complicated by pulmonitis, the leucocytosis is more marked. The graver the infection the greater the increase in the number of polynuclear leucocytes. During protracted convalescence the number of mononuclear leucocytes in the blood increases notably, showing its renewal. The old leucocytes while retaining their shape, do not stain, or do so slowly, showing their lack of vitality. Eosinophilous cells are almost entirely absent in the leucocytosis that accompanies diphtheria. Injections of antitoxin produce hypoleucocytosis in half an hour, followed by hyperleucocytosis, at its highest point five to six hours after the injection and decreasing in the twenty-four hours following, without reaching the point it had attained before the injection. In fatal cases the leucocytosis persists intense to the end. The number of leucocytes is probably not an indifferent factor in the production of immunity. Healthy children inoculated with the antitoxin, as a preventive measure, have a slight leucocytosis after the injection, returning to normal in twenty-four hours. Non-diphtheritic anginas are marked by hypoleucocytosis, and this fact may serve to differentiate them, at an early stage, of course before the injection of any antitoxin.—*Gaz. degli Osp. e delle Clin.*, January 10.

Sclerogenic Treatment of Hernia (Lannelongue).—The treatment of hernias with injections of chlorid of zinc has passed beyond the experimental stage and its success is now definitely established and is destined to revolutionize the treatment of inguinal hernia. The patient remains in bed eight to ten days after the operation and is then dismissed absolutely cured, with no further need of bandage or truss. The operation is so simple that it can be performed by any careful practitioner, and it is applicable to all cases and all ages. A witness describes a recent operation of the kind performed by Professor Lannelongue in his service at the Hospital Trousseau, the patient a lad of 14, affected with right inguinal hernia. The operation, watch in hand, lasted four minutes and a half, including the professor's explanations. The patient put to sleep, which is not strictly indispensable, and the toilet of the region performed, hair shaved, etc., the operator convinces himself that the hernia is absolutely reduced and orders his assistant to place his finger on the internal inguinal ring in such a way as to protect completely the peritoneal cavity. He then finds the cord as it enters the internal inguinal ring and holds it in his left hand, so that he can operate inside and around it without injuring it. The Pravaz syringe is taken in the right, filled with a one-tenth solution of chlorid of zinc (always the same in these sclerogenic injections). The needle is inserted perpendicularly to the pubis and carried down to the *surface of the bone*, when the point is deviated toward the under side of the cord and there, in the fibrous tissues surrounding it, five drops of the solution are injected and the needle is withdrawn. The same process is repeated three or four times each side of the cord, the points for the injections previously marked with a dermographic pencil if necessary. The ring is thus girdled with a row of eight to ten injections, and thirty to forty drops of the solution are injected. The first injection is made in the upper abdominal wall on the upper edge of the pubis, toward the pubic spine, in the internal ring of the inguinal canal between the pillars. The second is made a little lower on the pubis about one centimeter from the first, and the third still lower toward the origin of the descending branch of the pubis. Three other injections are made inside the cord, which is pulled out of the way with the left hand. The needle is again inserted as far as the bone, still avoiding the cord, and its point is again deviated in such a way as to make the injection behind the cord in the fibrous tissue immediately in front of the periosteum. None of the liquid finds its way into the peritoneal cavity owing to the pressure of the assistant's finger, who realizes the importance of his task, and there is nothing more to be done but to apply a moist aseptic cotton tampon. The region of the injections is dressed with a compress of iodoform gauze, cotton and an aseptic bandage. Eight days in bed, suppression of the bandage and the child is definitely cured of his hernia. There is no cord to be avoided in females.—*Journ. de Méd.*, February 14.

THE
Journal of the American Medical Association
PUBLISHED WEEKLY.

SUBSCRIPTION PRICE, INCLUDING POSTAGE:
Per Annum, in Advance $5.00
Single Copies . . . . . 10 Cents.
Subscriptions may begin at any time and be sent to
THE JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION,
No. 61 Market Street (Occidental Buildings), Chicago, Illinois.

MEMBERSHIP IN THE AMERICAN MEDICAL ASSOCIATION.

This is obtainable, at any time, by a member of any State or local Medical Society which is entitled to send delegates to the Association. All that is necessary is for the applicant to write to the Treasurer of the Association, Dr. Henry P. Newman, Venetian Building, Chicago, Ill., sending him a certificate or statement that the applicant is in good standing in his own Society, signed by the President and Secretary of said Society. Attendance as a delegate at an annual meeting of the Association is not necessary to obtain membership.

On receipt of the subscription the weekly JOURNAL of the Association will be forwarded regularly.

Gentlemen already members of the Association should send their annual subscription to the Treasurer, or direct to the JOURNAL office.

All communications and manuscript of whatever character, intended for publication in the JOURNAL, should be addressed to the *Editor*, and all communications relative to the business of the JOURNAL, proof sheets returned, or in regard to subscriptions, should be addressed to THE JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION, 61 Market Street (Occidental Buildings), Chicago.

Original communications are only received with the understanding that they are exclusively contributed to this JOURNAL.

INFORMATION WANTED.

It would greatly facilitate the prompt delivery of the JOURNAL to those members of the ASSOCIATION living in large cities, if they would kindly furnish this office with their street address in those cases where it is omitted from the wrapper of their JOURNAL, as we have been notified by the postmasters of the larger cities that second-class mail matter not having street address, would be placed in the general delivery to await call.

SATURDAY, APRIL 3, 1897.

THE ANTIVIVISECTIONISTS AGAIN.

On March 22 last Mr. GALLINGER of New Hampshire (Ecl. Med. Inst. of Cincinnati, Ohio, 1858 and New York Homeo. Med. Coll. 1868) introduced a bill in the United States Senate (S. 1063) for the further prevention of cruelty to animals in the District of Columbia, which was read twice and referred to the Committee on the District. This is the same bill as S. 1552 of the Fifty-fourth Congress which was reported favorably by Mr. GALLINGER from the District Committee of the Senate May 26, 1896, but which failed to obtain consideration during the short session.

The soft hearted and well meaning but narrow minded agitators of the Humane Society recognize from the manner in which the subject was handled last year in the sub-committee of the Senate, that they possess a friend at court, and there is no doubt that every effort will be directed during the sessions of the present Congress to have their bill brought before the House of Representatives with the stamp of the Senate's approval. The bill prohibits all experiments in the public schools and exhibitions to the general public. It prohibits vivisection of vertebrate animals without anesthetics, excepting inoculation experiments, tests of drugs or medicines, and during the progress of recovery from tests of surgical procedures. It requires experimenters, officers of the United States and of the District of Columbia excepted, to procure a license from the Commissioners of the District, and to make reports to the said Commissioners. The President of the United States is to appoint four inspectors, to serve without compensation, to inspect all places where experiments are carried on in the District, and to report to him from time to time the result of their observations, which should be made public by him.

The Senate Committee embodied in its favorable report of last year many extracts from absurdly exaggerated accounts of the observations made by sympathetic and horror-stricken members of the Humane Society in the laboratories of Paris and other European cities, and urged legislation to put an end to such atrocities in the District of Columbia. All the arguments in favor of the bill were couched in language that would be warranted only by the acknowledged or proved existence in the District of abuses to be remedied by its provisions. To such arguments is evidently due the support of many well meaning men, like the village doctor in Northern New York who humbly petitions Senator MCMILLAN "to use his influence for the bill now pending to restrict the barbarous and useless practice of vivisection in the District. The practice is brutal and brutalizing to all concerned in it," etc. To similar assumptions or insinuations, or to intentional misstatement of the intent of the bill, is no doubt due the support given to it by the signatures of many notable persons in the District. A committee representing the scientific societies of the District considers that these signatures, gathered by lady canvassers in two days' time, can hardly be regarded as "the deliberate judgment of the distinguished jurists, clergymen, army officers, and others who attached their names to the petition." Indeed it is known that many who affixed their signatures were led to believe that the main object of the bill was to prevent vivisection in the public schools.

These scientific societies claim that there is no abuse of the right to experiment on living animals in any of the laboratories of the District. They invite investigation, and suggest that justice to themselves and to the biologists of this country required the Senate Committee to determine the existence of abuses prior to recommending legislation which would place honorable and humane men before the world in the character of fiends, whose cruelties required Congressional action for their restraint. The AMERICAN MEDICAL ASSOCIATION, at its meeting in Atlanta, May 7, 1896, protested against the passage of this bill or any modication of it "unless it shall first be shown by an impartial investigation that cruel and unnecessary experiments are being performed in the District of Columbia, and that existing laws do not provide suitable punishment for cruelty to the domestic animals." Medical men could smile at the sentimental outpourings and sensationalisms, the ignorance and mental limitation of the members of the Humane Society

but for the fact that such agitators may do much to retard the progress of medicine. It is asserted that no advance has been made in medical knowledge in the laboratories of the biologists; that biologic experiments have retarded rather than advanced abdominal surgery; and that the only value possessed by the antitoxin of diphtheria is a commercial value to those who deal in it. Memorials and protests from all the medical and scientific bodies of the country have already fully answered all the arguments adduced in behalf of the bill; but irrespective of these, the testimony of Mr. DABNEY, Acting Secretary of Agriculture, of itself ought to have sufficed to file the bill away with the records of the forgotten past. He pointed out that the bill, while ostensibly local legislation, would affect principally the work of the Executive Departments, and particularly the investigations of the Department of Agriculture. He explained how impossible it would have been, under such restrictive legislation, for the Bureau of Animal Industry to have done its work in suppressing pleuro-pneumonia which some years ago was so fatal among cattle, or in preventing the Texas fever which so demoralized the cattle interests of the West. "Are the vital interests of agriculture in the whole of the United States to be made subservient to the demands of an over-zealous and intolerant local society, which appears incapable of taking a broad and liberal view of the subject?"

But for the intervention of the friend at court such testimony on the part of a high Government official would have immediately quieted the harmful and unnecessary agitation. As the formal protest of the AMERICAN MEDICAL ASSOCIATION has been passed over by the Senate Sub-Committee, we earnestly suggest to individual members of the ASSOCIATION to meet legislation restrictive of progress with all their personal influence in the Senate itself; for, should S. 1063 receive an affirmative vote, the field of agitation would be extended to the legislatures of every State; and a cry for absolute prohibition would be raised in England, to be echoed and re-echoed afterward by the over-zealous and intolerant faddists of the United States.

FELONS AS PHYSICIANS.

A recent editorial in a daily paper discusses the question of the moral qualifications that should be demanded of the practitioner of medicine, taking as its text a late decision of the New York court of appeals. A statute enacted two years ago disqualified any one who had been convicted of a felony from the practice of medicine. An individual indicted under this law pleaded in defense, first that his conviction antedated its passage and that, further, the law was unconstitutional in that it prevented him from earning his livelihood in a recognized legitimate profession. The defendant was convicted, appealed the verdict and the case was carried up to the court of last resort, where the decision was affirmed. The court held that the legislature could properly prohibit any one from practicing medicine who had been convicted of a felony before or after the passage of the act, and that the law was altogether constitutional. In the language of the editorial which probably embodies the substance of, or is quoted from, this decision:

"The preservation of the public health is one of the highest functions of the government, and the legislature may undoubtedly provide the mode by which, in its judgment, the public health may be best protected. One of these modes is the safeguards thrown around the practice of medicine, such as learning and character. The legislature may and should require that those who practice medicine shall be persons of good moral character. The most delicate and important duties are entrusted to physicians. They are admitted into the family circle, become cognizant of the most important and sacred family secrets, are permitted to administer powerful drugs and have the responsibility for and care of the lives, the health and the welfare of its members. It is only individuals of the highest character that should be intrusted with such privileges, and it is perfectly competent, therefore, for the legislature to prohibit criminals and felons from entering such a profession."

It is perhaps well that there should be a legal sanction thus given to a certain moral or legal rating for our profession. It is also a fortunate thing for the public that, as a rule, regular physicians have a high ethical and professional standard, and whatever their private lapses in some points of moral conduct may be, they seldom, or indeed almost never, violate the trusts placed upon them. The medical profession, it can be safely said, stands as high as regards its sense of right and honor, and its practical application of the same, as any, not excepting the military and the clerical professions, and there is as little need, on the whole, for enactments of the nature of the New York law, as could possibly exist with so large a class, in which inevitably some black sheep must occasionally be found. It is only on account of these, fortunately rare, exceptions that it can have its utility, but that these occur there is ample evidence. It is not very long since that, in the writer's own knowledge, an ex-convict was successfully practicing in one of our inland cities as a regular physician, and he continued to do so until a second conviction for a new offense consigned him again to the penitentiary. It is only just to say, however, that in neither case, it is believed, were his crimes for which he was convicted, directly connected with his medical practice; though a habitual criminal and probably belonging morally and physically to that class of degenerates, he still had a spark of the professional honor of the profession to which, though as a sort of a pariah, he belonged.

There is, however, a large class of men, known to every one, and who are popularly estimated as physicians, for whose benefit such a regulation as this New York law would especially be of value. Unfortunately,

they too often escape the penalty for their misdeeds, either by successful concealment of their misdoings or by failure of the courts to convict, and go on flourishing on the profits of their crimes. Still, such a law would occasionally settle one of them, and its moral effect would be good on the class as a whole. It would be only one safeguard, but it would prevent the possibility of what has repeatedly occurred, viz., the return to their old practices of once convicted abortionists and blackmailers. The rarely possible instances where such a law could work hardship, as in case of persons wrongfully convicted, could be easily met by special legislation if necessary, and this would be in its way the most thorough and satisfactory vindication. It is true that there may be on the statute books some laws under which physicians could be convicted for no actual or intentional crime—a paper, for example, was recently read before a New York medical society which demonstrated that almost any physician could be found guilty under the law of manslaughter—but this danger is not a very imminent or probable one, and need not give any concern to an honest medical practitioner.

As a measure for the protection of the medical profession, and still more for the protection of the general public, such a law prohibiting convicted felons from passing themselves and practicing as physicians, is eminently desirable and should be extended to other communities and commonwealths than the State of New York, where alone it seems to be now effective.

SKIN ERUPTIONS CAPABLE OF CAUSING ERRORS IN DIAGNOSIS.

There is probably no more frequent source of error in diagnosis, for the physician who sees a case for the first time, than the presence or development of lesions of the skin resulting from the presence of disease in other portions of the body or due to the administration of certain remedies which are not suspected of being the cause of the lesion or which may not be known to have been exhibited. Two papers dealing with this important subject have recently appeared in current medical literature, one by Dr. FRANCIS PACKARD, which was published in the *Medical News* for Feb. 20, 1897, under the title of "Scarlatiniform Eruptions following Operations for Traumatism," and the other by Dr. GUIRAUD of Bordeaux in the *Archives Cliniques de Bordeaux* for January, 1897. Some editorials dealing with the same subject have also appeared in recent numbers of *The Therapeutic Gazette* and in *Pediatrics*. The paper of Dr. PACKARD, as its title indicates, deals solely with the scarlatinous rash associated with various forms of trauma and in it is discussed the question as to whether such a rash is a sign of true scarlet fever or only a dermal inflammation, that is, an eruption due to the absorption of some toxic material from the site of the wound. While it is true that patients suffering from traumatism may develop a scarlatiniform rash as a result of a coincident or early infection by the poison of scarlet fever, it seems to us most probable that the great majority of these cases are not true infections with this disease, but simply evidence of septic infection or the results of the ingestion or absorption of drugs which are capable of producing skin manifestations. This is by no means impossible and probably occurs far more frequently than is usually suspected, for cases are on record, in large numbers, in which a roseolous rash has followed the application of such surgical dressings as contained iodoform, corrosive sublimate, carbolic acid or arnica, and it is a well known fact that other drugs are capable of causing similar dermal changes. Thus VEIEL has reported a roseolous eruption following the use of bromid of potassium, this eruption usually invading the skin of the lower limbs, and it is also well known that copaiba may produce a roseola of the skin of both the upper and lower extremities which is often accompanied by febrile movement. That there are nevertheless some cases of so-called surgical scarlet fever which are really due to the infection by this disease, is proved by the fact that we have, as PACKARD points out, numerous cases on record in which the patient has not only presented symptoms of scarlet fever himself, but has in addition communicated it to others.

This proper conclusion is practically that which has been reached by STIRLING in his article published in the *St. George's Hospital Reports*, for 1879.

One of the most interesting cases of true scarlet fever complicating a surgical operation is that which was reported in 1891 by LLOYD, in which the eruption appeared in a patient who had been subjected to the operation of trephining. This case gave rise to an epidemic. Such individual instances, however, by no means prove that scarlet fever after an operation is a manifestation of the disease produced by this cause, for patients already infected by scarlet fever are doubtless admitted to hospitals because of some acute surgical condition and naturally develop the eruption after operation has been performed.

It is an interesting fact, however, that in the great majority of cases of so-called surgical scarlet fever the patient is usually very young. Thus in seventy-two patients quoted by PACKARD the average age was 6 years and 4 months.

Passing on to a consideration of the other skin eruptions, it is of interest to note that GRELLETY, DUMAS, BOURARD and several other French clinicians have reported cases of scarlatinous erythema following the external application, or the internal ingestion, of quinin, while others have seen erythema, acute eczema, urticaria and lesions by no means so common following the use of this drug. It is a noteworthy fact that these eruptions have usually appeared upon the face and have breen brusque in their development

and in their rapid progress to full intensity. Further than this, all the drugs which we have named so far, as capable of producing a scarlatinous eruption, have also been quoted as having caused desquamation after the acute stage of the eruption has passed by. Turpentine applied externally, and used internally, has caused similar eruptions.

GUIRAUD concludes in his paper that very frequently the eruptions which are caused by drugs are limited to the face or, if not to the face, at least to the breast, and that sometimes the swelling may be sufficiently great to resemble erysipelas. Only when the amount of the drug which is ingested is very large are these eruptions, in his opinion, apt to extend over the entire body, and he thinks that the absence of general systemic symptoms in the majority of cases should aid us in the differential diagnosis between exanthems due to drugs and infections. In his opinion by far the greatest number of drugs capable of producing skin affections are the various balsams.

ANOMALIES OF THE MAMMARY GLAND.

Anomalies of the mammary gland furnish some very interesting evidence in favor of the Darwinian theory. These structures are now looked upon as simply a collection of modified sebaceous glands like the sebaceous glands found so abundantly in other parts of the body. CHAMPNEYS and DUVAL have shown that there is but little difference between sebaceous matter and milk. It seems probable that after the primitive stage of hermaphroditism ceased both sexes yielded milk, and that the male assisted in suckling as there were many young at a birth then. Later on, possibly from the number of young growing smaller, the males ceased to perform this function (DARWIN, "Descent of Man"). In the lowest class of mammals, the monotremata, the mammæ are developed almost as much in the male as in the female. "On the whole," says DARWIN, "we may doubt if the additional mammæ would ever have been developed in both sexes of mankind had not man's early progenitors been provided with more than a single pair."

Several varieties of abnormalities are met with. Amazia or entire absence of the breast may be noted first; this is excessively rare and is generally met with in connection with defects of the sexual organs or of the chest wall, such as absence of the pectoral muscles, etc. Nearly all the cases on record have been found in the female. A typical case is reported by Dr. WYLIE (*Brit. Med. Jour.*, Aug. 4, 1888) in a girl of 21. From the accompanying illustration in that journal, it may be seen that there is no trace of anything resembling mammary glands. In animals with mammæ one or more may be non-developed, and in man only one may be absent. However, this is almost as infrequent as complete amazia.

As a rule, the left breast is slightly larger, on account of the more frequent use of it in right-handed women. It sometimes happens that one or both sides are much smaller than normal, even smaller than the male gland and useless for suckling. Such a condition, called micromazia, is somewhat rare also. MCGILLICUDDY (*Med. Record*, Oct. 10, 1891) figures a unilateral case of this variety.

Congenital absence of the nipple, athelia, may be found in one or both breasts. The gland itself is not involved, so there may be abundance of milk, yet the patients can not nurse their children. In those lower forms, the monotremes already alluded to, there are no nipples, the milk escaping through ducts in a shallow depression of the skin. As we ascend in the animal scale we find the sides of this depression rising, until finally we have a complete mammillary outgrowth or nipple. Polythelia is also seen less rarely; the nipple may be bifid or the gland may have two separate nipples on the same areola, or one or more nipples, each with its own areola.

The condition of polymazia or supernumerary mammæ is most frequently observed. According to BRUCE (*Jour. Anat.*, xiii, p. 425) of 315 persons of both sexes 7.6 per cent. had supernumerary mammary structures. HANSEMAN tabulates 262 cases, of which the female furnished the greater number. AMMON (in WIDERSHEIM, "*Der Bau des Menschen*") states that of 2,189 army recruits he examined, supernumerary mammary structures were found in 66; in 62 there was one extra and in 4 two extra.

Two is the smallest number of mammæ met with normally in the group of mammals as seen in man, sheep, goat, horse; the cow has four, often six, the dog seven to fourteen. CUVIER states that the more numerous the glands are normally the more liable they will be to numerical variation. There is usually some relation between their number and the number of young at a birth; as a rule the mammæ are twice as frequent as the number of young.

The position of the mammary gland is of interest. In the lower classes it is in the inguinal region (hoofed animals, whales), in the higher (elephants, apes, bats, man) it is pectoral, in the rest it occupies the whole abdomen. The change from polymasty to bimasty can be seen even at the present day in the lemurs. In these animals the inguinal teats are functionless and clearly degenerating, while those in the pectoral region are fully developed (WIDERSHEIM). As these creatures are strictly arboreal in their habits it is much easier to carry their young at their breast than lower down.

In man supernumerary mammary structures are almost invariably found on the front of the trunk at spots located on two imaginary lines drawn from the normal nipples and converging at the pubes, thus following the course of the internal mammary and deep epigastric arteries. Over 90 per cent. are thus located

(LEICHTENSTERN, VIRCHOW'S *Archiv*, LXXIII, 222). If the redundant structures are below the normal they are thus internal to them, if above (which is rare) they are external. It is very rare for them to be found elsewhere, though MCGILLICUDDY mentions one on the thigh. It seems probable from a synopsis of the recorded locations of these redundant structures that man at one time had seven pairs of mammary glands and that the present pectoral pair corresponds to the fourth. In polymazia the normal pair is always in its proper position, no matter how many accessory structures are present.

As regards their functions they seldom reach the degree of perfection met with in the normal glands; milk may be secreted in greater or less quantity, but owing to the absence or imperfection of the nipples it is but rarely available. Of course they become most apparent during lactation, and like the normal glands become atrophied during the menopause.

Cases are sometimes described as axillary mammæ or the "axillary lumps" of CHAMPNEYS. These are very rarely aberrant growths, but are due to processes of the mammary gland growing round the edges of the pectoral muscle becoming nipped off and wholly or partly separated. This emphasizes the necessity of cleaning out the axilla in operations for cancer of the breast.

Are these supernumerary organs more liable to malignant disease, like the undescended testicle which, as is well known, is very liable to carcinoma? The question is partly answered by ROGER WILLIAMS ("Diseases of the Breast," 1894). Of fifty cases of fibroadenoma seven originated in supernumerary mammary structures; of 132 cases of cancer thirteen originated in these structures.

The largest number of excessive mammary structures met with is in a case of NEUGEBAUER, a woman who had eight supernumerary breasts and nipples besides the normal pair. AMMON found six extra structures in a man of 22 years. *En passant* it may be stated that the Egyptian goddess Isis and Diana of Ephesus are represented with many breasts, symbolic of fruitfulness. ANNE BOLEYN, in addition to hexadactyly, is said to have had three breasts, which gave Henry VIII. an excuse for putting her to death.

Gynecomazia or enlargement of the male breast is generally unilateral. It may occur at any time of life but it is usually seen at about the age of puberty. The enlarged glands sometimes secrete milk and gynecomazia is frequently accompanied by defective sexual organs.

Diffuse hypertrophy of the female breast on the contrary is generally bilateral, and is caused by increase in the normal structures of the gland. This condition is decidedly rare. One of the most typical cases on record is related by Prof. JOHN B. HAMILTON (JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION, March 9, 1895). In this case the two glands weighed no less than fifty-two pounds.

CORRESPONDENCE.

Autopsy, Necropsy, Necroscopy.

WASHINGTON, D. C., March 26, 1897.

To the Editor:—On page 571 of the JOURNAL is a paragraph in regard to the words autopsy, necropsy and necrotomy, as used to express the act of making a postmortem examination. The objection to the word autopsy is very properly stated, since it does not express the idea intended to be conveyed. As the word necrotomy simply means the cutting of a dead body, it also lacks in explicitness. But the word necropsy is a sort of corruption of necroscopy, which means (from νεκρός, a dead body, and σκοπέω, to examine) just what it says, and is therefore the word to use. It has the advantage of stating in one word what otherwise requires at least three.

The objection to the use of the word autopsy in this connection has led many writers to use simply the words postmortem examination, as in the translation of Virchow's classic work; and one of the latest, that of Hektoen of Chicago, 1894. The word necroscopy was used as far back at least as Ouelly, Paris, 1833; and Newth has a Manual of Necroscopy, London, 1878.

I have used necroscopy myself for many years and would be glad if the word, unabbreviated, might be brought into common use by physicians. Yours truly,

Army Medical Museum. D. S. LAMB, M.D.

ANSWER.—We think our distinguished correspondent is in error as to the derivation of the word necropsy. It is not a contraction, but a literal use of the words νεκρός, "a corpse," and ὄψις, "a view." The word is also used in French and German. In those languages the term "necroscopy" is also used; but as Americans are just now engaged in cutting superfluous letters in orthography generally, it would seem a pity to use the longer word as Dr. L. suggests.

A Radical View of the Advertising Business.

MINNEAPOLIS, MINN., March 27, 1897.

To the Editor:—The short letter of Dr. W. S. Fullerton in the JOURNAL of March 13, it seems to me, touches on a subject of the greatest importance, but one in regard to which, unfortunately, medical practitioners are too indifferent.

I refer to the too common habit among manufacturing chemists of first introducing their goods to the regular profession in an ethical way, and after a time spent in such introduction and in obtaining testimonials from certain members of the profession, advertising the remedy in the secular press in the most unblushing manner for the benefit of the general public.

Scott's emulsion and vin Mariani are two of the most notorious examples of this breach of faith with the profession, but it seems that during the past year the evil is growing, and that even heretofore reputable manufacturers are boldly advertising their goods to the public, at the same time that they cultivate the favor of the medical men in their accustomed way.

After noting your correspondent's strictures in regard to Messrs. McKesson & Robbins, I examined *Harpers'* and *Century* magazines and *The New York Independent* with the following results:

Harpers': Vin Mariani, one-quarter page. Buffalo lithia water, two pages. Eisner & Mendelson Co., Johann Hoff's malt extract, one page. Pabst malt extract, one page. Schieffelin & Co., Peter Moller's cod liver oil, one-quarter page. Scott's emulsion of cod liver oil, one page.

Century: Mellin's food. Schieffelin & Co., lycetol-Bayer (cure for gout); somatose. Buffalo lithia water, again two pages. Eisner & Mendelson Co., Carlsbad salts, one page. Scott's emulsion, one page.

New York Independent and several other religious papers show the same advertisement of Moller's cod liver oil.

Now, it does seem that there are enough manufacturers of

pharmaceutic preparations to choose from, without lending our countenance to such methods and their exponents.

It seems probable, also, that quite a number of the firms named above would, if forced to choose between the patronage of the general public and that of the profession, prefer the latter.

Ought not the profession to discriminate sharply between manufacturers, and decline to prescribe anything made by houses which descend to the methods of the patent medicine men to push their goods upon the public?

J. CLARK STEWART, M.D.

Infection by Communion Cups.

PHILADELPHIA, March 25, 1897.

To the Editor:—May I be permitted to seek, through your "Correspondence" column, some information in a matter in which I am deeply interested, and have been from its inception, namely, the sanitary communion cup?

I would esteem it a great favor and personal kindness if any member of the profession throughout the United States would answer on the following points: 1, locality of church or churches using the individual communion cups; 2, denomination; 3, when adopted; 4, number of communicants—approximate; 5, if possible, and the respondent is a member of a church in which the individual communion chalices are in use, the undersigned would also like to have a brief expression of opinion as to the success of the new method, and what objections, if any, were urged against its adoption, whether pastoral or congregational? Very truly yours,

H. S. ANDERS, M.D.

Sequela of Measles.

(IN ANSWER TO DR. STIMSON'S QUERY.)

NEW YORK, March 25, 1897.

To the Editor:—In 1619, attention was called by Sennert as to the occurrence of arthritis as a complication of scarlet fever and measles, and almost all the specific fevers.

At the present day the frequency with which this complication occurs is universally recognized.

Dr. Samson is of opinion that the importance of measles as a predisposing cause of endocarditis has not been sufficiently taken into account, and he is inclined to assign to that fever a share in the predisposition of articular rheumatism. Those who possess a rheumatic tendency are most liable to suffer from rheumatism when attacked by scarlatina or measles.

Yours truly, GHISLANI DURANT, M.D.

PUBLIC HEALTH.

Barbers Should be Compelled to Boil their Instruments.—Why not? asks the *Union Méd. du Canada*, commenting on a recent case of staphylococcus infection contracted by a physician in the barber's chair. Why should there not be a municipal regulation to that effect?

Prophylaxis of Phosphoric Necrosis.—This subject has been receiving much attention in France lately. All are agreed that the best method of prophylaxis is the suppression of the use of white phosphorus in the manufacture of matches, but as this seems to be practically impossible at present, it is considered that rigid enforcement of measures requiring forced and abundant ventilation and the selection of workmen free from any lesion of the mouth, will be sufficient.

The Results of Modern Progress in Hygiene are strikingly shown by the decrease in the mortality in armies. In 1870 the mortality in the French army was 11 per cent.; in 1896 it had fallen to 5.29 per cent. The deaths from typhoid fever were less by one-half and from smallpox have dropped from 127 in 1876 to 2. According to recent regulations an apparatus for sterilizing water by steam under pressure, mounted on wheels, is to be kept at headquarters, and sent at once to barracks threatened with an epidemic.—*Presse Méd.*, March 3.

To Regulate the Sale of Food, Drink and Medicine.—State Senator Revell of Chicago, has introduced to the Illinois legislature a bill intended to regulate the manufacture of baking powder, patent medicine, breadstuffs, the preparation of spices, pepper, coffee, tea, and other articles of food. The bill provides for the appointment by the governor of an inspector of all articles of food, drink and medicine. He shall appoint a corps of assistants to assist him in his work and it shall be his duty to condemn such articles if they are found to contain anything injurious.

Precautions Against the Possible Spread of the Bubonic Plague.—At the present writing France seems to be in the lead regarding sanitary thoroughness, inasmuch as particular attention is given to the regulation of the Mecca pilgrimages and a consequent over-crowding of the various sailing vessels, together with all the conditions growing out of the excretory surroundings belonging to all improvised camping grounds. England on the other hand, has been charged with too much indifference by reason of her valuable commercial interests in the Baltic region. In our own continent the State of New York appears to feel the national responsibility, since Health Officer Doty during the present month has received information from his appointed agent in Egypt that vessels arriving at the Suez Canal from India have been duly vised, that the precautions taken in Bombay are improving in adequacy, and that from the recent investigations in Bombay of Rogers Pacha, Inspector-General of the Sanitary Department of Egypt, it is to be inferred that there is no liklihood of the plague reaching Egypt.

Expose Illinois Towns to Smallpox.—The *Chicago Tribune*, March 29, says: Springfield, Ill., March 28.—[Special].—Dr. Scott of the State Board of Health today received a message from Chicago stating that a number of smallpox suspects were on their way from New York to points in Illinois. The suspects were passengers on the steamship, *Southwark*, which arrived in New York on March 26. There was a well developed case of smallpox on board, and many of the passengers were exposed. After disinfecting the clothing of the passengers, it appears that the New York Marine-Hospital authorities allowed them to go, and twenty-six of them are on their way to this State.

A number are bound for Chicago, and the following are passengers for other points in Illinois: August Martens, Kewanee; Tanna Keyenga, German Valley; Florence Nilass and F. Weltkamp, South Peoria; Lups Mendert, wife and child, German Valley; Mrs. K. Delayk and daughter Florence, Anne Kreiler, and Katherina Kupfer, Peoria; Emil Ettinger, Aurora; John Heischberg, Rose Hill; Nicholas Olinger, Sycamore; Marie Nittenbove, Angelus Lamens and wife, and Leo Dlamers and brother, Sheffield; Charles Martens, Rock Island; Paul Mary and three children, and Victoria Muller, East St. Louis. Dr. Scott sent telegrams to the points where the passengers are expected, and notified the local health authorities to look after them. In speaking of the policy of Marine Hospital authorities in permitting smallpox suspects to leave New York, Dr. Scott said: "In view of the fact that there is so much smallpox in Mexico, Cuba, and in the far East, it occurs to me that the precautions taken by the Marine Hospital-Service are inadequate. Over twenty people who have been exposed to the disease are sent out to Illinois, and the first notice of the fact comes two days later. In the meantime they may have developed the disease and spread it all the way from New York to Chicago. The chances are that these people will have reached their destination and embraced their friends before the local authories have an opportunity to detain them. The carelessness with which people from infected districts are examined was well illustrated the other day. A Pullman porter with smallpox traveled all the way from City of Mexico to Chicago, where he was taken to the hospital. He had been waiting on

and coming in contact with passengers all along the line, and two cases have since developed as a result of his coming into the State."

Peoria, Ill., March 28.—[Special.]—A telegram was received tonight by Mayor Allen warning him that Anne Kreiler, Katherina Kupfer and Mrs. Weltkamp were headed for this city after being exposed to smallpox. The Mayor at once ordered the erection of a temporary pest-house in the upper end of the city, near the work-house, and sufficiently far away from all other buildings. It is being constructed tonight and the force of officers has been increased at the depot. As soon as the women arrive they will be taken to the place and kept there until all danger has passed.

Medical and Bacterioscopic Care of Dairies.—We have before us notes regarding two exemplary milk supplies, one in Denmark and one in New Jersey. Some of these notes, that must appeal to medical men and city dwellers generally, may be summarized thus: The Copenhagen Milk Supply was inaugurated in 1878 by the late Dr. Panum, one of the leading Copenhagen practitioners. The fact that the founder was a physician was not accidental, but reflects clearly the original purpose of the company, which has been preserved unimpaired to the present day, the attempt to improve the health of the city by furnishing a quality of milk that could with safety be recommended to children and invalids. The commercial element is kept severely in the background, the profits being limited to 5 per cent. The milk is obtained at present from about fifty farms having a total of about five thousand cows. The greatest precautions are taken to prevent any possible contamination of the milk. Every fortnight the cows are carefully examined by a veterinary surgeon attached to the company, who also reports on the general hygienic condition of the farms. The head dairy woman regularly visits the farms to examine them with regard to cleanliness, especially during milking, the cooling of the milk, etc., and an inspector sees that all instructions are followed. The Danes are nothing if not thorough. Special attention is paid to the so-called children's milk, the highest grade, of which over 60,000 analyses are made every year. All the milk is passed through filters, from which the children's milk passes immediately into bottles which are then sealed. Pasteurized milk is also furnished, both pure and mixed with water and sugar at different strengths ready for use. The danger of contagion is guarded against by a method that must be as effective as it is humane. Whenever any one connected with the company discovers that he or any member of his family is taken sick with a contagious disease he is removed from his work, and unless an attempt at concealment has been made, his full pay continues until his return. In this way it is to every one's advantage to give immediate notice of what, as a rule, entails serious loss. The working force at the time of the strike consisted of about two hundred men and women and over a hundred boys. A valuable feature of the administration is a committee of two prominent physicians who act as an advisory board, their services being rendered without any compensation. The model American dairy, of which we would briefly treat, is known as the Fairfield Dairy, in "the Oranges" of Essex County, New Jersey, and its product is known as "perfected milk." It was also founded in 1878 by Mr. Stephen Francisco. He began with only thirteen cows, and from the outset absolute cleanliness was insisted on, and great care was taken in all the details connected with the milking. In 1892 the physicians of Essex County instituted a search for a dairy that would meet all their requirements for the production of pure milk, and Mr. Francisco willingly signed the contract. Since that time the milk has been periodically examined by experts and certified to by different physicians of Essex County. The two large barns are situated on high ground, well ventilated and drained. The cows are kept in a sweet and clean atmosphere, groomed morning and night, and treated kindly. They are examined twice a month by a veterinary surgeon, who reports on the health of each, and if one be found to be affected by any disease whatever she is immediately removed. Great care is taken in selecting the cows, their antecedents being rigidly looked into. The Jersey and Holstein breeds predominate. In the milking absolute cleanliness is the first care. The milkmen are provided with freshly washed white suits every day, and are not allowed to touch the cows until they have washed their hands and cleaned their nails. The udders are also carefully washed and the milk is then drawn into covered pails, through a small sieve opening. The milkmen are lodged and boarded on the premises, simple and healthy in their habits, and are visited weekly by a physician to prevent any sickness remaining undetected. As soon as milked the milk is gathered into large cans and sent by an overhead wire to the dairy, a building several hundred feet from the barns and near a never-failing spring of purest water. When received there the milk is quickly strained again and falls over a series of metal tubes, through which ice-cold spring water is continually forced, cooling the milk. It is then bottled and covered with ice until delivered to the wagons. In the dairy the same carefulness is observed. The bottles are all washed three times and subjected to a pressure of twenty-five pounds of steam. The pipes and tanks through which the milk passes are scalded with steam just before they are used; so the chances for germ-life to be introduced into the bottled milk are reduced to a minimum. The theory is that the bacteria in milk causes it to sour, and by taking every precaution to prevent contamination, the milk can be kept sweet much longer than is usual. In 1893 twelve bottles of milk were sent across the ocean on a Cunard liner, and brought back, a period covering twenty days, and one bottle was kept ten days longer, and in both cases the milk was found to be perfectly sweet when opened.

Voluntary Notification of Tuberculosis.—In the *Sanitary Inspectors' Journal*, January, Dr. Arthur Newsholme, Medical Officer of Health of Brighton, England, outlines the official measures of prophylaxis against tuberculosis that may be operated in the absence of a compulsory notification of cases of that disease. "In Brighton we at once disinfect all rooms occupied previously by phthisical patients, when requested to do so by the doctor or the relatives, or apart from this when we hear of them in any other way. The information thus received is, however, as yet very limited. No local authority has hitherto secured powers to include phthisis among the diseases to be compulsorily notified to the medical officer of health. My own views are fairly well expressed in a resolution by myself and unanimously passed at the annual provincial meeting of the incorporated Society of Medical Officers of Health in August, 1893: 'That the Society of Medical Officers of Health while accepting the view that phthisis is an infective disease, in the prevention of which active hygienic measures should be taken, think it premature to recommend the compulsory notification of a chronic disease like phthisis. They are, however, of opinion that it is incumbent on medical officers of health to take such steps as may secure, *a*, the voluntary notification of cases of phthisis by medical officers of public institutions and such medical practitioners as agree that precautionary measures are desirable; *b*, the adoption of such precautionary measures, including the disinfection of rooms, as can be arranged in conjunction with the family practitioner.' Much good, apart from the notification of cases of phthisis, may be done by acting upon the weekly death returns. In Brighton every death from any form of tubercular disease is fully investigated. At the same time as the information is obtained the following informal notice is served, and the thorough cleansing and washing of the sick room and its contents enforced: 'Sir, or Madam—In connection with the death from . . . . registered as having occurred at No . . . . , allow me to draw your attention to the important fact that consumption is chiefly communicated from one person to another by inhaling the dust of the room previously occupied by the patient. Hence it is most important that the house should be thoroughly cleansed and all trace of dust removed, wet cloths being used for this purpose. I beg to advise that the following works are necessary in order to prevent the risk of similar cases arising

in the same house, viz.: 1, to strip the wall paper and burn it in the same room; 2, to thoroughly wash the ceilings and floor and walls of the room; 3, to wash all bed linen and other articles in the room, and expose the bedding, pillows, etc., out of doors for several hours in bright sunshine. Yours obediently, ... , Medical Officer of Health.' The spray of a solution of perchlorid of mercury (1 in 1,000) has in some cases been used in lieu of stripping off wall papers and whitewashing, but I am not yet able to speak from wide experience as to the relative merit of this method of dealing with such cases. The above measures of disinfection and cleansing may appear to partake of the nature of locking the stable door after the steed has been stolen. But it must be remembered that such action tends to minimize the dangers necessarily associated with this disease to other members of the same family as the deceased, or possibly to the members of another family moving into the infected house. Furthermore, there is the educational value appertaining to such measures, which impresses the public mind and gradually instills into it the necessity for continued precautions. That the danger of phthisis being communicated from one member of a family to another is not imaginary is shown by the following sample cases: A man, aged 38 years, died, during last year, of phthisis. He came from Portsmouth in 1892 already ill, where in 1891 his wife had died of phthisis. A woman aged 40 years died of phthisis. She had been married twice, both husbands having died before her of phthisis. The order of events in this case was probably that she acquired phthisis from her first husband and gave it to her second husband, in whom it ran a more rapid course than in her. A married woman, aged 42 years, died of phthisis. Her first husband died of phthisis in another house. There are several instances like this. A man aged 47 years died from phthisis in October, 1894, after an illness of several years. His daughter, who helped to nurse him, died in January, 1895, from phthisis. At another house four children of the same family died in succession of phthisis, namely, a young woman aged 23 years in January, 1891; a girl aged 16 years in August, 1891; a young woman aged 22 years in August, 1892, and a boy aged 16 years in November, 1894." If the narration of cases like the preceding produced a fear of living in the same house with consumptive patients, serious and unnecessary hardships to invalids would result. Assuming that simple precautions are taken, there is little or no danger of infection. What is necessary is that all expectoration should be at once burned, or a spittoon used containing a strong solution of carbolic acid or corrosive sublimate. Pocket-handkerchiefs should not be used for expectoration. Furthermore, the state of personal health is an important factor in the production of consumption. Attention to this, along with simple means of disinfection and cleanliness, removes the danger of communication of consumption.

BOOK NOTICES.

Lectures on the Treatment of Fibroid Tumors of the Uterus. By FRANKLIN H. MARTIN, M.D., Professor of Gynecology, Post-Graduate Medical School of Chicago, etc. Pp. 174. W. T. Keener Co., Chicago, 1897. Price $1.00.

The book is divided into ten lectures. The first lecture treats of the anatomy, histology, etc. It is of course impossible to give a complete treatise on these subjects on eleven pages. Many important questions, for instance, the recent work on the adenomyomas of the uterus, are not mentioned at all. In lecture two the symptoms are described tersely and clearly, the diagnosis and differential diagnosis are discussed with much attention to detail. The third chapter contains the medical treatment and gives an exhaustive review of remedies which may or may not be of influence on uterine fibroids and on the conditions produced by them. Lecture four is devoted to ergot. The indications, methods of administration, duration and results of this treatment are discussed. The theories of the peculiar actions of ergot, and all the expectations built on these theories, are mentioned, but when it comes to results the author quotes old authorities. Though the ergot treatment is called "one of the meritorious relics of pre-surgical days," it is not to be understood that the author has the kind of reverence for this relic which would prevent his turning toward more modern powers. Lecture five gives a condensed description of the practical use of electricity. As the name of the author is lastingly connected with this work, it is highly interesting to read a concise statement of his experience with this treatment. After a short description of the necessary paraphernalia, the more or less mysterious, unexplained or unproved effects claimed for the electric current are enumerated. Lecture six gives a very complete description of the operative treatment of fibroids. Preparation and after-treatment of patients are also discussed in this chapter. Lecture seven gives a review of the brilliant results accomplished by the author's well known operation of vaginal ligation of the broad ligaments. The history and technique are described and the latter illustrated by drawings. The indications are fully set forth and the prognosis defined. This is followed by the description of thirteen cases operated by this method between November, 1892, and February, 1895. Complete records of the cases, with the remote results, give a clear insight into the nature of the cases. It may be well to mention that the operation, though minor as to its performance, is by no means limited to small or incipient growths. In at least five of the cases the condition of the patient must have appeared desperate before this operation was performed. The results are extremely gratifying, as not only the troublesome and dangerous symptoms (hemorrhages, pain, pressure symptoms) have disappeared, but the tumors themselves have markedly decreased or disappeared. These results are so good that it is probable the operation will grow in popular favor, which it fully deserves in consequence of its comparative simplicity, the absence of danger from it, and its excellent prognosis. In the same lecture some minor operations for fibroids are described, removal of pedunculated fibroids (submucous), of cervical fibroids, curettement for the endometritis accompanying fibroids. The author does not favor enucleation of submucous fibroids of any considerable size if their principal bulk is buried in the wall of the uterus, and regards hysterectomy as more satisfactory in such cases. The operation of enucleation of submucous or intramural fibroids by laparotomy, which is a great success in such cases, is not mentioned in this or in any other chapter. Lecture eight, removal of the uterine appendages. The history and theory of this operation, its failures and the much restricted indications are described. The technique of the operation in simple cases, as well as in cases complicated with disease of the appendages, is outlined. The question of drainage is treated in a practical way. The author's results as given are brilliant: Sixty-five operations, no deaths; hysterectomy had to be performed subsequently in four of these cases. Lecture nine treats of vaginal hysterectomy. After a short historic review the advantages of the operation in comparison with abdominal operations, are mentioned. The author does not share the opinion of those ultras who try to operate every fibroid through the vagina, but advocates the sensible discrimination which differentiates the surgeon from the routinist. The two methods of vaginal hysterectomy, with or without morcellement, the use of clamps and ligatures, the after-treatment, are outlined carefully. One is not surprised to find at the end of this lecture the author's statistics ranging with the best published. Lecture ten, abdominal hysterectomy. This subject is presented in an extremely practical and clear way, the different methods being arranged according to their principles. The author favors the Stimson-Baer operation and describes its technique carefully for simple as well as complicated cases.

The book is a creditable one from any standpoint.

A Manual of the Practice of Medicine. By A. A. STEVENS, A.M., M.D. Philadelphia: W. B. Saunders. 1896.

This little manual has reached its fourth edition—evidence of merit. Its author understands the art of constructing a clear and fairly comprehensive abstract of the contents of the

larger works on medicine, to which due reference is made in the preface. The result is a convenient pocket companion that will be found useful by the student who is preparing a cram for examination, or even by the newly fledged professor who is about to step forth into the arena. But for students who are engaged in class-work such hand-books are too sketchy, and, consequently, dry and uninteresting—mere skeletons, devoid of attraction.

We Have Received in an envelope bearing the following stamp: "Treasury Department; Office Supervising Surgeon General; penalty for private use $300;" a document purporting to be a reprint of the Cleveland *Journal of Medicine*, February, 1897.

The question of whether it is in violation of the law to send matter of this character without payment of postage, in a penalty envelope, is one for the postal authorities to consider; but looking at the matter of the document—a compilation which contains considerable miscellaneous information, among others, an editorial from the New York *Times*, August, 1893—it is chiefly remarkable for ignoring quarantine laws enacted prior to 1893, the Organic Act of Aug. 1, 1888, in particular being omitted. This omission is apparently malicious, unless we assume ignorance, and is not creditable to the present incumbent of the office of Supervising Surgeon General.

NECROLOGY.

JOHN B. DAVISON, M.D., Moline, Ill. The following resolutions have been adopted by the staff of St. Anthony's Hospital:

Your committee to whom was referred the duty of preparing an expression of our feelings regarding the death of Dr. J. B. Davison have the honor to make the following report:

Dr. Davison was born in Westmoreland County, Pennsylvania, June 11, 1826, and graduated from the Jefferson Medical College in March, 1868. He died at his home in Moline, Ill., Feb. 5, 1897. By his death this community has lost an upright citizen and the medical profession a devoted member. We will miss him at the meetings of our society and in our consultations in the sick room. That the evidence of our affection for him may live when we have gone we recommend that the following be spread upon our minutes.

Resolved, Death has removed from us Dr. J. B. Davison, an original member of the medical and surgical staff of Saint Anthony's Hospital.

Resolved, Dr. Davison, by his exemplary life both as a physician and as a citizen, was endeared to us beyond mention. Always honorable in his intercourse with his confrères. Always kind and sympathetic to the sick and afflicted.

Resolved, We regret his death and mourn with those who are dear to him, but submit in sorrow to his last call.

Resolved, That a copy of these resolutions be sent to the family of the deceased, a copy to the JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION, and copies to the press of Rock Island and Moline.

G. G. CRAIG, M.D.,
S. C. PLUMMER, M.D.
L. D. DUNN, M.D.

WILLIAM B. BERRY, M.D.—At a meeting of the Orange Mountain Medical Society, held March 19, 1897, the following report was adopted:

Report of a committee appointed at the February 1897, meeting of the Orange Mountain Medical Society to prepare a suitable minute on the death of William Bogardus Berry, M.D.

WHEREAS, This society has been informed that Doctor William Bogardus Berry died in Pasadena, Cal., in December, 1896, and

WHEREAS, He was one of the founders of this society, and for a number of years did his full share to promote its scientific advancement and social well being, therefore be it

Resolved, That it is with profound sorrow that we have learned of the untimely death of our late associate. And that we desire, as a slight tribute to his memory, to have it recorded that we have never known a purer nor a more sincere man, and that his professional equipment and his private character were such that his membership cast luster upon this society.

Resolved, That in his death the profession has lost a faithful and accomplished practitioner, his family a wise and devoted husband and father, the community a good citizen, the poor and unfortunate a ready helper, and the members of this society a genial companion and a noble and high-minded friend.

Resolved, That these resolutions be inscribed upon our minutes and that copies of them be sent to Dr. Berry's family, to the JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION, to the New York *Medical Record* and to the *New York Medical Journal*.

JNO. J. H. LOVE,
RICHARD C. NEWTON,
THOS. W. HARVEY. } Committee.

DOUGLASS EWELL, A.B., Columbia College, New York, 1888, M.D., College of Physicians and Surgeons, New York, 1891, died at the Langham Hotel, New York city, March 22, aged 30 years.

THOMAS SCOTT LAMBERT, M.D., Castleton, 1845, of New York city, died from pneumonia, March 31. He was 78 years old and had not been active in practice for years. Services and interment at Salem, N. Y.

MANOAH S. LONG, University of Pennsylvania, 1862, of Mertztown, Pa., died of pneumonia, March, 16, aged 56.

ARNOLD SCHOTT, M.D., Jefferson Medical College, Pennsylvania, 1868, died in Philadelphia, March 18, aged 70. He was a lieutenant in the German army and afterward a military instructor at Berlin.

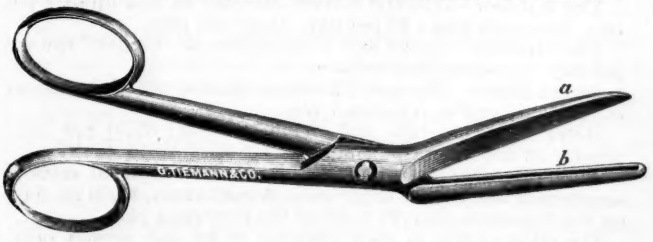
JAMES A. FISHER, M.D., an alumnus of the Pennsylvania Medical College (now extinct) class of 1853, died at his home in Reading, Pa., March 6. aged 56.

J. B. SAMO, M.D., of Buffalo, N. Y., March 12.——Wesley A. Dunn, M.D., of Chicago, at Naples, Italy, March 20. He had practiced in Chicago eight years.——Arnold Heinrich Arthur Scott, M.D., of Philadelphia, March 18. He was born in Germany in 1827 and came to this country in 1866 and was graduated from Jefferson Medical College.

NEW INSTRUMENTS.

CRAIG'S HERNIOTOME.

A few weeks ago I ordered an instrument from George Tiemann & Co., describing it as a pair of curved scissors, the under blade of which was a grooved director to be used in hernia operations and others of like character requiring the use of a grooved director. Mr. Tiemann replied that he had never heard of such an instrument, but liked the idea, and would make me one if I so desired. I then ordered it made.



A few days after receiving Mr. Tiemann's first letter I received another from him saying that the more he thought about the instrument the more he liked it, and requested me to write a description of it for publication in a medical journal, stating that he would furnish me a cut for illustration.

I have never posed as an inventor, but I believe I have unconsciously originated a very valuable little instrument, which I cheerfully give to the profession, hoping that those who use it will find some convenience from it, if not actual benefit. The illustration so accurately shows its mechanical construction that it is unnecessary to say anything about it. I only need to say that it can be used in any case where an inflexible grooved director is necessary. It can be used more gracefully, more rapidly, and with greater safety with one hand than the ordinary grooved director and knife can be used with both hands. It is impossible to cut anything except the tissue over the grooved blade.

have used it in one case, an operation for the radical cure of hernia, and it fully satisfied all my expectations. I believe it will meet the general approval of surgeons.

ROCK ISLAND, ILL. G. G. CRAIG, M.D.

CHAUVAU'S IMPROVED STETHOSCOPE.

A large metal box fits over the chest, to shut out external sounds. It communicates with the close-fitting ear piece by a rubber tube, which has a side opening about 40 cm. below the ear. This opening enables the sounds to be perceived with much greater exactness, and can be connected if desired with a Marey drum.—*Cbl. f. Phys.* from *C. R. Soc. de Biol.*, April 25, 1896.

ASSOCIATION NEWS.

The Meeting of the American Medical Association.

To the Editor:—May I call the attention of those of your readers who are thinking of coming to Philadelphia to attend the semi-centennial meeting of the AMERICAN MEDICAL ASSOCIATION to be held June 1, 2, 3, and 4, 1897, that there will be in addition to the meeting of the ASSOCIATION at the same time a large mercantile convention which will to a certain extent utilize a considerable number of the rooms in the various hotels. For this reason it is advisable that physicians who intend to be present at the meeting should write at once to one of the following hotels engaging such rooms as they desire at the rates named:

Hotel Walton—Broad and Locust Streets: $1.50 and upward per day, European plan; $4 and upward per day, American plan.

The Colonnade—15th and Chestnut Streets: $1 and upward per day, European plan; $3 and upward per day, American plan.

The Lafayette—Broad and Chestnut Streets: $1 and upward per day, European plan; Table d'hôte: breakfast 25 to $1, luncheon 75, dinner $1.25.

The Bingham House—11th and Market Streets: $2.50 and upward per day, strictly on the American plan.

Hotel Stenton—Broad and Spruce Streets: $2 and upward per day, European plan; $4 and upward per day, American plan.

The Continental—9th and Chestnut Streets: $3 and upward per day, strictly on the American plan.

The Windsor—11th and Filbert Streets: $1 and upward per day, European plan; $2 per day, American plan.

The Stratford—Broad and Walnut Streets: $1 and upward per day, European plan only.

Girard House—9th and Chestnut Streets: $2.25 to $3 per day, strictly on the American plan.

Hotel Hanover—12th and Arch Streets: $2.50 per day, strictly on the American plan.

Aldine Hotel—Chestnut Street above 19th: special rates to members of the AMERICAN MEDICAL ASSOCIATION, $2.50 per day, on the American plan; $1 to $3 on the European plan.

The price quoted in each instance is for one person only. Rooms commanding only the lowest price are naturally limited in number. It is especially desirable that each member intending to be present at the meeting shall personally, or by letter, make his arrangement with the hotel at which he desires to stop.

It is worthy of note that the rate of $1.50 per day at the Hotel Headquarters, the "Hotel Walton," is the rate for two people in one room.

All these hotels are within a few blocks of the meeting place and most of them are within two blocks. As a sub-committee of the General Committee of Arrangements has arranged clinical courses in all branches of medicine at the various teaching institutions and large hospitals during the week prior and following the week of the ASSOCIATION meeting, it has been thought that a considerable number of physicians would be glad to embrace the opportunity of brushing up upon the various branches by attendance on these courses, for which no charge will be made by the gentlemen giving them and as their stay in this city will therefore be more than a few days, it has occurred to the Committee that some of the visiting physicians may wish to take rooms at some good boarding house. The Chairman of the Committee on Reception and Accommodation, Dr. G. E. de Schweinitz, 1401 Locust Street will be glad to send the addresses of such boarding houses to gentlemen desiring to stay here for a week or more.

The large number of gentlemen who have already signified their intention of attending the meeting, and the very large number of able and interesting papers already placed upon the programs indicate that this will be the most important meeting which the ASSOCIATION has ever had and it is hoped that every physician who is a member of a regularly organized County Medical Society will make an effort to attend.

The meeting halls for the various Sections are situated so close to one another that different papers in different Sections can be readily listened to during a single morning's session by those who do not wish to devote their time to one particular specialty.

Very truly yours, H. A. HARE, M.D.
Chairman of the Committee of Arrangements.

SOCIETY NEWS.

Antitoxin American Pediatric Society.—The Collective Investigation (report) will be kept open until April 10, in order to secure a return of all cases beginning before April 1. The committee desire to express its appreciation of the trouble and pains the members of the profession have been willing to take in this matter. The return blanks are more understandingly made out than in the first report.

International Bureau of Penal Law.—This organization will meet at Lisbon, Portugal, April 20 to 22, 1897. Subjects announced for discussion: 1, Modifications in the Statutes of the Union; 2, Contraventions; 3, Transportation as a Repressive Penal Measure; 4, Criminal Attempts; 5, Minor Delinquents; 6, Moral and Penal Responsibility. M. Rivière, Secretary, 52 Rue d'Amsterdam, Paris.

Pathological Society of Philadelphia.—The annual conversational meeting of the Society will be held in the Upper Hall of the College of Physicians, northeast corner Thirteenth and Locust Streets, April 22, 1897, at 8:15 P.M. Dr. Ludvig Hektoen, professor of morbid anatomy in Rush Medical College, will delivery an address, entitled "Fragmentation and Segmentation of the Myocardium." After the meeting a reception will be tendered Dr. Hektoen at the University Club, 1316 Walnut Street. A cordial invitation is extended to attend the meeting and the reception.

Union Medical Society.—At a meeting held in Troy, N. Y., the Union Medical Society was organized by the leading physicians of Rensselaer and Washington Counties, New York, Bennington County, Vermont, and Berkshire County, Massachusetts. It is intended to hold four meetings a year, one in each county. The first regular meeting will be held in Troy, April 21, when the permanent officers will be elected.

The Luzerne County Medical Society held a regular meeting at Wilkes Barre, Pa., March 14.——A regular meeting of the Syracuse (N. Y.) Academy of Medicine was held March 23.

MISCELLANY.

Dr. Unna's Pamphlets.—Dr. P. G. Unna of Hamburg, has kindly sent us reprints of various addresses and articles contributed by him to medical literature. We have sent them to the Newberry Library.

Extra-uterine Pregnancy, Deliverance through the Rectum.—The *Rev. Méd. de la Suisse Romande*, No. 12, describes the case of a woman of 28, who after every indication of extra-uterine

pregnancy, passed fetal bones, etc., through the rectum at intervals during a period of almost eleven years, when she died of peritoneal complications.—*Presse Méd.*, March 3.

Personal.—Prof. Nicholas Senn of Chicago, entertained the *Verein Deutscher Aerzte* of Milwaukee, at the Athletic Club, Chicago, March 26.——Prof. Hobart A. Hare of Philadelphia, has been appointed "consulting therapeutist" to the well known house of Parke, Davis & Co.——Dr. Fred. H. Wines has been reappointed Secretary of the State Board of Charities of Illinois.

The Republican Candidate for Mayor of Chicago, Judge N. C. Sears, in a letter written to the Physician's Club said that while he had made no pledges and could not make any, yet he believed in lawyers for legal positions and doctors for medical positions. This is all that should be asked.

Mr. Hesing, one of the candidates for Mayor, has sent a circular to physicians in which he says that, if elected, he will appoint a physician and not a politician as Health Commissioner. This commits all the candidates to the principle of a medical man for a medical office.

Seventy-Seven Cases of Extra-Uterine Pregnancy.—Wasten reports this number of tubal pregnancies occurring in his practice in three years. He operated in 52 cases, 45 celiotomies and 7 colpotomies, and considers that the sooner the operation is performed the more complete the results and the more rapid the recovery; out of 18 patients operated *in extremis*, 2 died; a fetus was discovered in 13 cases, twins in 2; 25 were treated non-surgically, but in only 3 of these was the resorption complete. In most of the cases there was tubal abortion or a retro-uterine hematocele, complicating hematosalpinx, in 2 cases ante-uterine hematocele.—*St. Petersb. Med. Woch.*, Feb. 27.

Effect of Venesection on the Chemical Constitution of the Blood.—Jessipow concludes from his numerous experiments on animals that the blood is altered in its chemic constitution by withdrawal of a certain amount, and that it then acquires a powerful bactericidal action, at its height twenty-four hours afterward, and gradually returning to normal. The resistance of animals to intraperitoneal cholera injections increased in direct proportion to this increased bactericidal action of the blood. Repeated venesections increased this resistance more than one single venesection.—*St. Petersb. Med. Woch.*, No. 1, 1897.

Railroad Hospitals.—The Southern Railway, according to the *Atlanta Constitution*, is to erect a chain of hospitals for the care of those injured in its service with the extension of the same privilege to all accident cases. Attention is at the expense of the road. This provision will ward off or at least mitigate damage suits. "The Plant system—and in fact most all of the great systems throughout the country," says our contempoary" "have erected such institutions and from information the systems have saved many dollars and at the same time given more efficient service to the injured."

The Coming Rule of Moral Suasion in Russia.—Even Russia, perhaps over-maligned by reason of its despotic form of government and its fierce though repressed racial wars, accepts the spirit of the times. We learn from authority deemed competent that the director of a new asylum for juvenile offenders has been refused permission to introduce corporal punishment in both the male and female departments of his institution. The *Novoe Vremya* recalls that a like petition was made several years ago by the director of a juvenile correction colony, and that the petition was denied in emphatic terms by the Minister of Justice. As somewhat germaine to the subject the Rev. Dr. Talmage draws vivid pictures of the charming domestic life of the cultured Russians, whom he probably saw under the best possible conditions. He fosters the view that the national characteristic is that of an indifferent, resigned melancholy, upon which according to most alienists mere physical outrages can have but little effect. Probably in this history making epoch Russia is at "stack arms."

Intoxication from the Vapors of Anilin.—An employe without syphilitic or alcoholic antecedents, was sent from a drug store in Nancy to the works at Bar le Duc for a quantity of anilin, (1892). It was kept in cemented tanks, and as he did not have a siphon, he drew the anilin in pails and emptied it into his vessels, which occupied him four or five hours. The work was done in a small, close shed, and the air was soon saturated with the vapors. The moment he emerged into the fresh air he fell prostrate, and remained unconscious for seven hours, pupils dilated, pulse feeble, skin cold, spasmodic contractions of the lower muscles and trismus. For a fortnight his urine was black and his complexion green, while his limbs could scarcely support him. He has since had two attacks of partial hemiplegia, and his mental condition has varied from extreme depression to periods of excitement, while his character has completely changed and he has become morose, and even savage.—*Presse Méd.*, March 3, from *Rev. Méd. de l'Est*, No. 18, 1896.

The Census Statistics of France.—To arrest the steady decrease in the birth rate among the French people, M. Alphonse Bertillon, the terror of the arrested criminal, and well known to everybody except, as is said, to a few New York police officials, advocates the exemption from direct taxation of every family in which there are three children. He would further have imposed an extra tax of 20 per cent. upon all without the requisite number, as a protection against loss of revenue by the treasury. In this way he hoped to establish a distinction between men to whom the nation's interests are dear and men who consider them not at all. In studying the degree of fiscal punishment a citizen, says M. Bertillon, has, as such, three primary duties; he must do his share toward the perpetuity, the defense and the financial maintenance of his country. If he shirks the first, he must undergo an extra charge for the other two. M. Bertillon, however, does not reveal whether he would begin again to tax a father, of whose three children one or more should die, nor whether exemption should cease when the children become self-supporting and leave the parents' home. Would it not be more satisfactory to discuss the whole question from the moral standpoint alone, without even a bias for the rights of posterity, which are or should be held to be inalienable. Poor France, in her history, it is to be feared has exchanged much too late her jocund shout of "On with the dance," for the yell of "Now to glory."

Wisconsin Law for Treatment of Inebriates Unconstitutional.—The manifest purpose of the Wisconsin law of 1895 (chapter 203 of the laws of that year) providing for the treatment of habitual drunkards in private institutions at county expense, the supreme court of that State declares was to benefit private parties. In other words, it says that it was to compel the county in which any citizen resided who had become "addicted to use of spirituous, malt or fermented liquors, morphin, opium, cocain, or other drugs or narcotics, to such a degree as to deprive him or her of the power of reasonable self-control," who had been committed to these private parties' private institute, in the manner prescribed, to pay such institution a sum not exceeding $130 "for treatment, medicines, and board for four weeks," furnished to such person. This, the supreme court holds, Wisconsin Keeley Institue Co. v. Milwaukee County, Feb. 2, 1897, must, for one thing, stand in the way of the act being a valid exercise of the police power of the State. The mere fact that an institution is subject to visitation and inspection by public officials, it says does not make it a public institution. Nor does it think that a county can be compelled to pay any private party for treatment, medicines and board of any resident therein, having a disease not contagious or infectious, merely because such diseased person "has not the means to pay for said treatment." Upon these grounds, the court holds the law in question unconstitutional. The Maryland act that was held

valid, it points out was broadly distinguishable from this one. More like it was that of Colorado, but its constitutionality was not made to turn upon the questions considered above, so the case in which it was held valid was not deemed an authority here.

Five Hyatid Moles.—Garcia Medina describes an unusual case in the *Revista Médica de Bogotá* for October. The patient, a woman 48 years of age, had passed through twenty-one pregnancies, some terminating normally, and others by abortion, and finally presented the symptoms of an eight months' pregnancy, with evidences of tumors in the uterus. He dilated the cervix as for an abortion, and made injections of citrate of ergotinin in the hypogastric region, causing uterine contractions and the expulsion of the moles, five in number, two measuring twelve centimeters in length. Each had a pedicle and was enveloped in a sac of fibrous tissue. The immediate results were good, but a hemorrhagic endometritis that subsequently appeared required curetting. This restored the patient to health and her menses reappeared.

X Rays in Medical Jurisprudence.—The City and Suburban Railway Company of Baltimore, Md., have found the cathode X-rays an efficient checkmate for a recent fraudulent scheme. A man whose name the officers decline to disclose asserted that he had one of his arms broken by a car, and through an attorney demanded $3,500 damages. His arm was tied up from the wrist to the elbow, and he pretended to be in great pain. Rather than go to the expense of a lawsuit, the company offered to compromise for $100, which was refused. The company then arranged for a picture of the bones of his arm, which showed no fracture. When the bandages were removed the skin was found to be burned and discolored by an acid, said the physicians. The result of the examination was made known to the claimant who offered to settle for $25, but the company was no longer in a compromising mood.

A One-Man Medical Faculty.—Dr. Dunglison writes in the *College and Clinical Record* that the late Prof. Robley Dunglison of Jefferson Medical College, when invited by the representative of Thomas Jefferson, then rector of the University of Virginia, to leave England to assume the duties of a professorship, or rather a combination of professorships, in that school, entered into a contract: "To teach to the best of his ability and with due diligence, anatomy, surgery, the history of the progress and theories of medicine, physiology, materia medica, and pharmacy." At the time he was invited to take upon himself this task he was but 26 years of age.

If any man in American history was ever able to accomplish so much, that man was Robley Dunglison, whose knowledge was well-nigh universal, and who touched no subject with his pen that he did not adorn.

An Ex-Post-Facto Medical Law.—The same reasons that control in imposing conditions upon compliance with which the physician is allowed to practice in the first instance, it is adjudged, may call for further conditions as a requirement of his continuance in practice. But the appellate division of the supreme court of New York holds, in People v. Hawker, Feb. 5, 1897, that any legislative requirement imposed for the continuance of a person in the practice of medicine, whether pertaining to his professional knowledge and skill or to his good moral character, must relate to his present status or condition. Thus, the provision of section 153 of the New York public health law (chapter 661, laws 1893, as amended by chapter 398, laws 1895) which enacts, among other things, that any person who, after conviction of a felony, shall attempt to practice, or shall so practice, shall be guilty of a misdemeanor, the court holds constitutional so far as it operates prospectively, and upon persons convicted of felony after its passage, but unconstitutional in so far as it applies by its terms to persons so convicted before the law went into operation. The underlying purpose of the act, it says, may be to purge the medical profession of members unworthy of confidence, but the real effect, so far as it is pronounced obnoxious, is to accomplish that by inflicting an additional punishment, through a newly created offense inseparably connected with the anterior crime, and thus bring about a result the constitution forbids, no matter in what form the statute is drawn. Mr. Justice Ingraham files a lengthy dissenting opinion.

Sanitarium at the Canary Isles.—The *British Medical Journal*, February 6, states that there is an undoubted need for a health resort at one of those islands for the benefit of Europeans who get run down in health at the various fever-stricken stations of the western coast of Africa. In addition to the many Englishmen whose business or official duties take them to those sickly shores, there are also the French, Belgians, Portuguese and Germans in considerable numbers, and these by coöperating together can bring about the founding of a model sanitarium in the "golden climate of the Canaries." The *Journal* points out how necessary it is that the fever stricken patient does not return to Europe in the winter, a proceeding that is especially unsafe for those who are suffering from the extreme anemia produced by African fevers. The writer has known not a few cases of hemoglobinuric fever which relapsed on the weakened convalescent after being plunged into an English winter.

Prizes Offered by the Academie de Medecine of Paris in 1899.—Works submitted in competition for the prizes must be legibly written in French or Latin, accompanied by a sealed envelope containing the name of the competitor which must not be revealed otherwise. All articles must be in the hands of the Académie by the end of February of the year in question, and they are not returned to the authors. The prizes entitle the successful competitor to the title of laureate of the Académie de Médecine. Prix de l'Académie, 1,000 francs, annual, subject: Physiology and Pathology of the Thyroid Gland. Prix Alvarenga, 800 francs, annual, for the best article on any medical subject. Prix Amussat, 1,000 francs, triennial, for the article or researches based on anatomic and experimental studies, which have realized or prepared the way for the most important progress in surgical therapeutics. Prix d'Argenteuil, 6,800 francs, sexennial, for the most noteworthy improvement in the means of curing strictures of the urethra, or for the best work on the treatment of other diseases of the urinary passsges. Prix Barbier, 2,000 francs, annual, for a complete cure for diseases recognized as incurable, such as hydrophobia, cancer, epilepsy, scrofula, typhus, cholera morbus, etc. Prix Mathieu Bourgeret, 1,200 francs, annual, for the best article or work on the circulation of the blood. Prix Capuron, 1,000 francs, annual, subject: Modifications in the Placenta and Membranes of the Ovum Retained in the Uterus. Prix Chevillon, 1,500 francs, annual, for the best article on the treatment of cancerous affections. Prix Civrieux, 800 francs, annual, subject: Nervousness. Prix Daudet, 1,000 francs, annual, subject: Lymphadenoma. Prix Desportes, 1,300 francs, annual, for the best work on practical medical therapeutics. Concours Vulfranc Gerdy, for the nomination of two medical students to serve at a mineral water cure in France or abroad. Candidates must be inscribed at the Académie de Médecine. Prix Ernest Godard, 1,000 francs, annual, for the best work on external pathology. Prix Theodore Herpin, 3,000 francs, annual, for the best work on epilepsy and diseases of the nerves. Prix Laborie, 5,000 francs, annual, for the author of the work which has advanced the progress of surgery to a noteworthy degree. Prix Larrey, 500 francs, annual, for the best work on medical statistics. Prix Laval, 1,000 francs, to the medical student who has proved himself the most deserving. Prix Lefèvre, 1,800 francs, triennial, subject: Melancholia. Prix Meynot, 2,600 francs, annual, for the best work on diseases of the eyes. Prix Adolphe Monbinne, 1,500 francs; this sum is bestowed annually or biennially on scientific missions in the interests of the medical, surgical or veterinary sciences. Prix Nativelle, 300 francs, annual, for the best work on the extraction of the positive active principle of some medical substance never before isolated. Prix Oulmont, 1,000 francs, annual, awarded to the medical student who has won the gold medal in the annal "interne concours." Prix Portal,

subject: Experimental Work on Animals to Study the Inoculation and Contagiousness of Cancer. Prix Pourat, 700 francs, annual, reports of experimental work to elucidate the question of the immediate and ultimate destination of the albuminoid food substances. Prix Philippe Ricord, 600 francs, biennial, for the best work that has appeared during the two years on venereal diseases. Prix Vernois, 700 francs, annual, for the best work on hygiene. Competition is open to natives and foreigners alike for these prizes. The following is closed to foreigners: Prix Buignet, 1,500 francs, annual, for the best work on the applications of physics or chemistry to the medical sciences. Translations not admitted.

Cincinnati.

THE MORTALITY REPORT for the week ending March 19 shows: Zymotic diseases, 16; phthisis, 13; other constitutional, 14; local, 56; developmental, 10; total, 110; still births, 4; annual rate per 1,000, 14.12; total preceding week, 138; corresponding week 1896, 123; 1895, 134; 1894, 133.

THE ANNUAL ELECTION of officers of the Conner Surgical Society, a fraternity of the Ohio Medical College, which was held last week, resulted as follows: President, Dr. R. W. C. Francis; vice-presidents, Dr. Markley and Dr. Rayle; secretary, Dr. W. Koontz; treasurer, Dr. Bernheimer; masters-at-arms, Dr. C. E. Laws and Dr. P. Kennard. After the election Dr. P. S. Conner, from whom the Society is named, delivered a lecture, which was followed by a banquet.

AT THE ACADEMY OF MEDICINE meeting Dr. P. M. Ashburn read a paper on "Primary Vaginal Sarcoma," and Dr. Joseph Eichberg read one on "Treatment of Gallstones."

THE JOURNAL SPECIAL TRAIN.—Arrangements are being perfected for a special car out of Cincinnati to join the Special train to the AMERICAN MEDICAL ASSOCIATION meeting at Philadelphia, and those contemplating attending should address Dr. G. I. Cullen, 714 West Sixth Street, for rates, sleeping-car space, tickets and other information.

Hospitals.

The Mayor of Salem, Mass., has been notified by the Massachusetts State Board of Health that there is urgent need of hospital for contagious diseases. During the past six months the board has spent about $9,000 in the management of these cases and it is thought desirable to build a hospital where they may be isolated and more advantageously treated.——Mrs. T. P. Sheppard of Providence, R. I., has announced her intention of purchasing a sterilizing plant to be presented to the St. Joseph's Hospital. The estimated cost is $1,700.——The visiting staff of St. Mary's Hospital, Rochester, N. Y., have donated to that institution an X ray apparatus of the latest pattern.——The monthly report of the Charity hospital, New Orleans, La., shows that 1,578 patients were treated in the hospital during the month of February.

Colleges.

The Bellevue Hospital College has issued diplomas to 133 students out of a class of 160. The annual commencement has been abolished at this college.——The ninth annual commencement of the Michigan College of Medicine and Surgery was held March 23. There were forty-seven graduates.——At the annual commencement of the Missouri Medical College, St. Louis, Mo., a class of seventy-four was graduated.

Illinois Medical Practice Bill.—The following bill was introduced by Mr. Bogardus, Feb. 18, 1897. Read first time, ordered printed and referred to Committee on Education and Educational Institutions:

A BILL

For an act to establish a State Board of Medical Examiners, prescribing its powers and duties, to provide for the licensing of practitioners of medicine and midwifery, and to regulate the practice of medicine and midwifery, in the State of Illinois, and imposing penalties, and to repeal all acts or parts of acts in conflict therewith.

SECTION 1.—*Be it enacted by the People of the State of Illinois, represented in the General Assembly*, That a board of examiners to be known as the "State Board of Medical Examiners" shall be appointed as follows: Within sixty days after this act shall take effect, the Governor shall appoint nine (9) physicians of recognized professional ability and standing, who are residents of the State, and legally qualified practitioners of medicine therein, as members of said board, who shall hold their office until their successors are appointed and qualified. The members of said board so first appointed, shall determine by lot, their respective terms of office, so that the term of one member shall expire on Dec. 31, 1898, and the term of two members on December 31 in each year thereafter. And at the expiration of the term of office of each of the members of the board, the Governor shall appoint his or their successor or successors, whose term of office shall be for the period of five (5) years; and all vacancies occurring in the membership of the board, by resignation or otherwise, shall be filled by the Governor, and all appointments on said board shall be made from physicians having the qualifications prescribed herein for members of the first board: *Provided, however*, That all appointments shall be made with the advice and consent of the Senate, but appointments made when the Senate is not in session may be confirmed at the next ensuing session thereof.

SEC. 2.—The said board shall, within thirty days after its appointment, meet and organize by electing a president, vice-president and treasurer from among its members, and a secretary who shall be a legally qualified physician, not a member of the board. Such officers shall hold office until the next annual meeting of the board, or until their successors are elected and qualified. The board shall prescribe the duties of its officers, and shall require the treasurer to give a satisfactory bond. The board shall adopt and have a common seal, and the president or presiding member and the secretary shall be empowered to administer oaths in taking testimony or in any matter pertaining to the duties of the board. A majority of the board shall constitute a quorum for the transaction of any business. It shall adopt such rules, regulations and by-laws not inconsistent with the laws of this State and of the United States, as it may deem necessary or proper to enable it to properly perform its duties and transact its business.

SEC. 3—The annual meeting of the board for the election of officers shall be held in the State Capitol on the second Tuesday of January in each year. The board shall also hold regular meetings on the second Tuesdays of April, July and October in each year, at such place as it may determine, and may hold other meetings at such times and places as it may deem necessary, or its duties may require.

It shall keep an official record of all its transactions, and a complete file of all applications for licenses, together with the correspondence pertaining thereto, and of all examination papers, and shall make a report of its transactions, annually, to the Governor, which shall include a statement of all monies received and disbursed by it, and an official list of all physicians and midwives authorized to practice in this State.

SEC. 4.—No person shall hereafter begin the practice of medicine, or any of the branches thereof, except dentistry, in this State, without first applying for and obtaining a license from said board so to do. Application shall be in writing, and in the form prescribed by the board, and shall be accompanied by the application and examination fees hereinafter specified, and with proof that the applicant is of good moral character, and has received a diploma conferring upon the applicant the Degree of Doctor of Medicine from some legally incorporated medical institution in the United States, in good standing, as may be determined by the board, at the time of issuing said diploma, or with proof that the applicant has pursued, in some institution of learning in some foreign country, a course of medical study not less in extent than the course of study prescribed for the Degree of Doctor of Medicine by legally incorporated medical institutions in the United States, in good standing, as aforesaid. When the application and proofs aforesaid have been inspected by the board, and found to comply with the foregoing provisions, the board shall notify the applicant to appear before it for examination, at the time and place mentioned in such notice. Such examination shall be in the English language, and embrace only those general subjects and topics, a knowledge of which is commonly and generally required of candidates for the degree of Doctor of Medicine by reputable medical colleges in the United States.

No person shall hereafter begin the practice of midwifery in this State without first applying for and obtaining a license from said board so to do. Applications shall be in writing, and in the form prescribed by the board, and shall be accompanied by the application and examination fee hereinafter specified, and with proof that the applicant is of good moral character, and has received a diploma from a school of midwifery, complying with the requirements of the board. When the application and proofs aforesaid have been inspected by the board, and found to comply with the foregoing provisions, the board shall notify the applicant to appear before the board for examination at the time and place mentioned in such notice. Such examination shall be in the English language, and of such character as to determine the qualifications of the applicant to practice midwifery.

All examinations provided for in this act shall be conducted under rules and regulations prescribed by the board, which shall provide for a fair and wholly impartial method of examination. If the applicant successfully passes his or her examination, the board shall issue to such applicant a license authorizing him or her to practice medicine or midwifery, as the case may be, in this State. Such license shall be in such form as may be determined by the board, and in accordance with the provisions of this act: *Provided, however*, any wilful violation, on the part of an applicant, of any of the rules and regulations of the board governing examinations, shall be sufficient cause for the board to refuse to issue a license to such applicant.

SEC. 5.—The application fee for those desiring to begin the practice of medicine under the foregoing section shall be $5 and the examination fee $15, and for those desiring to begin the practice of midwifery the application fee shall be $5 and the examination fee $10, and, in all cases, both the application and the examination fee must accompany the application: *Provided, however*, if the application and proofs accompanying the same are not approved, or the applicant fails to pass the examination fee shall be returned: *And provided further*, in case the applicant fails to pass his or her examination, he or she shall, after the expiration of six months, and within a period of two years, be entitled to one re-examination without the payment of any additional application fee.

SEC. 6.—Any practitioner of medicine or midwifery, who has been licensed to practice by the licensing authorities of another State, whose standard of requirements for a license to practice was, at the time of the issuing of such license, not lower than that prescribed by this act and by the board herein provided for, may be granted a license to practice in this State, without examination by this board, upon payment of the fee hereinafter specified, to the treasurer of the board, and upon presenting to the board his or her license or certificate to practice issued by the proper authorities of such other State, together with proof that he or she is of good moral character, and is the person named in such license or certificate: *Provided, however*, the board may further require that such applicant shall furnish proof of the requirements he or she had to comply with in obtaining his or her license or certificate from the authorities of the State which issued the same.

The license fee for practitioners of medicine applying for license under this section shall be fifty (50) dollars and for practitioners of midwifery thirty (30) dollars.

SEC. 7.—That all persons who, at the date of taking effect of this act are qualified to practice medicine or midwifery, under the laws of this State, in force at the time of the passage of this act, and who desire to continue in practice, shall, within six months after the appointment and organization of the Board of Examiners provided for in this act, apply to such board for a license, which shall be issued by the board on payment of a fee not to exceed one dollar. *Provided*, the board may refuse to issue such license to any such applicant for cause hereinafter provided. All licenses issued under the provisions of this and the fore-

valid, it points out was broadly distinguishable from this one. More like it was that of Colorado, but its constitutionality was not made to turn upon the questions considered above, so the case in which it was held valid was not deemed an authority here.

Five Hyatid Moles.—Garcia Medina describes an unusual case in the *Revista Médica de Bogotá* for October. The patient, a woman 48 years of age, had passed through twenty-one pregnancies, some terminating normally, and others by abortion, and finally presented the symptoms of an eight months' pregnancy, with evidences of tumors in the uterus. He dilated the cervix as for an abortion, and made injections of citrate of ergotinin in the hypogastric region, causing uterine contractions and the expulsion of the moles, five in number, two measuring twelve centimeters in length. Each had a pedicle and was enveloped in a sac of fibrous tissue. The immediate results were good, but a hemorrhagic endometritis that subsequently appeared required curetting. This restored the patient to health and her menses reappeared.

X Rays in Medical Jurisprudence.—The City and Suburban Railway Company of Baltimore, Md., have found the cathode X-rays an efficient checkmate for a recent fraudulent scheme. A man whose name the officers decline to disclose asserted that he had one of his arms broken by a car, and through an attorney demanded $3,500 damages. His arm was tied up from the wrist to the elbow, and he pretended to be in great pain. Rather than go to the expense of a lawsuit, the company offered to compromise for $100, which was refused. The company then arranged for a picture of the bones of his arm, which showed no fracture. When the bandages were removed the skin was found to be burned and discolored by an acid, said the physicians. The result of the examination was made known to the claimant who offered to settle for $25, but the company was no longer in a compromising mood.

A One-Man Medical Faculty.—Dr. Dunglison writes in the *College and Clinical Record* that the late Prof. Robley Dunglison of Jefferson Medical College, when invited by the representative of Thomas Jefferson, then rector of the University of Virginia, to leave England to assume the duties of a professorship, or rather a combination of professorships, in that school, entered into a contract: "To teach to the best of his ability and with due diligence, anatomy, surgery, the history of the progress and theories of medicine, physiology, materia medica, and pharmacy." At the time he was invited to take upon himself this task he was but 26 years of age.

If any man in American history was ever able to accomplish so much, that man was Robley Dunglison, whose knowledge was well-nigh universal, and who touched no subject with his pen that he did not adorn.

An Ex-Post-Facto Medical Law.—The same reasons that control in imposing conditions upon compliance with which the physician is allowed to practice in the first instance, it is adjudged, may call for further conditions as a requirement of his continuance in practice. But the appellate division of the supreme court of New York holds, in People v. Hawker, Feb. 5, 1897, that any legislative requirement imposed for the continuance of a person in the practice of medicine, whether pertaining to his professional knowledge and skill or to his good moral character, must relate to his present status or condition. Thus, the provision of section 153 of the New York public health law (chapter 661, laws 1893, as amended by chapter 398, laws 1895) which enacts, among other things, that any person who, after conviction of a felony, shall attempt to practice, or shall so practice, shall be guilty of a misdemeanor, the court holds constitutional so far as it operates prospectively, and upon persons convicted of felony after its passage, but unconstitutional in so far as it applies by its terms to persons so convicted before the law went into operation. The underlying purpose of the act, it says, may be to purge the medical profession of members unworthy of confidence, but the real effect, so far as it is pronounced obnoxious, is to accomplish that by inflicting an additional punishment, through a newly created offense inseparably connected with the anterior crime, and thus bring about a result the constitution forbids, no matter in what form the statute is drawn. Mr. Justice Ingraham files a lengthy dissenting opinion.

Sanitarium at the Canary Isles.—The *British Medical Journal*, February 6, states that there is an undoubted need for a health resort at one of those islands for the benefit of Europeans who get run down in health at the various fever stricken stations of the western coast of Africa. In addition to the many Englishmen whose business or official duties take them to those sickly shores, there are also the French, Belgians, Portuguese and Germans in considerable numbers, and these by coöperating together can bring about the founding of a model sanitarium in the "golden climate of the Canaries." The *Journal* points out how necessary it is that the fever stricken patient does not return to Europe in the winter, a proceeding that is especially unsafe for those who are suffering from the extreme anemia produced by African fevers. The writer has known not a few cases of hemoglobinuric fever which relapsed on the weakened convalescent after being plunged into an English winter.

Prizes Offered by the Academie de Medecine of Paris in 1899.—Works submitted in competition for the prizes must be legibly written in French or Latin, accompanied by a sealed envelope containing the name of the competitor which must not be revealed otherwise. All articles must be in the hands of the Académie by the end of February of the year in question, and they are not returned to the authors. The prizes entitle the successful competitor to the title of laureate of the Académie de Médecine. Prix de l'Académie, 1,000 francs, annual, subject: Physiology and Pathology of the Thyroid Gland. Prix Alvarenga, 800 francs, annual, for the best article on any medical subject. Prix Amussat, 1,000 francs, triennial, for the article or researches based on anatomic and experimental studies, which have realized or prepared the way for the most important progress in surgical therapeutics. Prix d'Argenteuil, 6,800 francs, sexennial, for the most noteworthy improvement in the means of curing strictures of the urethra, or for the best work on the treatment of other diseases of the urinary passsges. Prix Barbier, 2,000 francs, annual, for a complete cure for diseases recognized as incurable, such as hydrophobia, cancer, epilepsy, scrofula, typhus, cholera morbus, etc. Prix Mathieu Bourgeret, 1,200 francs, annual, for the best article or work on the circulation of the blood. Prix Capuron, 1,000 francs, annual, subject: Modifications in the Placenta and Membranes of the Ovum Retained in the Uterus. Prix Chevillon, 1,500 francs, annual, for the best article on the treatment of cancerous affections. Prix Civrieux, 800 francs, annual, subject: Nervousness. Prix Daudet, 1,000 francs, annual, subject: Lymphadenoma. Prix Desportes, 1,300 francs, annual, for the best work on practical medical therapeutics. Concours Vulfranc Gerdy, for the nomination of two medical students to serve at a mineral water cure in France or abroad. Candidates must be inscribed at the Académie de Médecine. Prix Ernest Godard, 1,000 francs, annual, for the best work on external pathology. Prix Theodore Herpin, 3,000 francs, annual, for the best work on epilepsy and diseases of the nerves. Prix Laborie, 5,000 francs, annual, for the author of the work which has advanced the progress of surgery to a noteworthy degree. Prix Larrey, 500 francs, annual, for the best work on medical statistics. Prix Laval, 1,000 francs, to the medical student who has proved himself the most deserving. Prix Lefèvre, 1,800 francs, triennial, subject: Melancholia. Prix Meynot, 2,600 francs, annual, for the best work on diseases of the eyes. Prix Adolphe Monbinne, 1,500 francs; this sum is bestowed annually or biennially on scientific missions in the interests of the medical, surgical or veterinary sciences. Prix Nativelle, 300 francs, annual, for the best work on the extraction of the positive active principle of some medical substance never before isolated. Prix Oulmont, 1,000 francs, annual, awarded to the medical student who has won the gold medal in the annal "interne concours." Prix Portal,

ubject: Experimental Work on Animals to Study the Inoculation and Contagiousness of Cancer. Prix Pourat, 700 francs, nnual, reports of experimental work to elucidate the question f the immediate and ultimate destination of the albuminoid ood substances. Prix Philippe Ricord, 600 francs, biennial, or the best work that has appeared during the two years on enereal diseases. Prix Vernois, 700 francs, annual, for the est work on hygiene. Competition is open to natives and oreigners alike for these prizes. The following is closed to oreigners: Prix Buignet, 1,500 francs, annual, for the best ork on the applications of physics or chemistry to the medcal sciences. Translations not admitted.

Cincinnati.

THE MORTALITY REPORT for the week ending March 19 shows: Zymotic diseases, 16; phthisis, 13; other constitutional, 14; local, 56; developmental, 10; total, 110; still births, 4; annual ate per 1,000, 14.12; total preceding week, 138; corresponding week 1896, 123; 1895, 134; 1894, 133.

THE ANNUAL ELECTION of officers of the Conner Surgical Society, a fraternity of the Ohio Medical College, which was held last week, resulted as follows: President, Dr. R. W. C. Francis; vice-presidents, Dr. Markley and Dr. Rayle; secretary, Dr. W. Koontz; treasurer, Dr. Bernheimer; masters-at-arms, Dr. C. E. Laws and Dr. P. Kennard. After the election Dr. P. S. Conner, from whom the Society is named, delivered a lecture, which was followed by a banquet.

AT THE ACADEMY OF MEDICINE meeting Dr. P. M. Ashburn read a paper on "Primary Vaginal Sarcoma," and Dr. Joseph Eichberg read one on "Treatment of Gallstones."

THE JOURNAL SPECIAL TRAIN.—Arrangements are being perfected for a special car out of Cincinnati to join the Special train to the AMERICAN MEDICAL ASSOCIATION meeting at Philadelphia, and those contemplating attending should address Dr. G. I. Cullen, 714 West Sixth Street, for rates, sleeping-car space, tickets and other information.

Hospitals.

The Mayor of Salem, Mass., has been notified by the Massachusetts State Board of Health that there is urgent need of hospital for contagious diseases. During the past six months the board has spent about $9,000 in the management of these cases and it is thought desirable to build a hospital where they may be isolated and more advantageously treated.——Mrs. T. P. Sheppard of Providence, R. I., has announced her intention of purchasing a sterilizing plant to be presented to the St. Joseph's Hospital. The estimated cost is $1,700.——The visiting staff of St. Mary's Hospital, Rochester, N. Y., have donated to that institution an X ray apparatus of the latest pattern.——The monthly report of the Charity hospital, New Orleans, La., shows that 1,578 patients were treated in the hospital during the month of February.

Colleges.

The Bellevue Hospital College has issued diplomas to 133 students out of a class of 160. The annual commencement has been abolished at this college.——The ninth annual commencement of the Michigan College of Medicine and Surgery was held March 23. There were forty-seven graduates.——At the annual commencement of the Missouri Medical College, St. Louis, Mo., a class of seventy-four was graduated.

Illinois Medical Practice Bill.—The following bill was introduced by Mr. Bogardus, Feb. 18, 1897. Read first time, ordered printed and referred to Committee on Education and Educational Institutions:

A BILL

For an act to establish a State Board of Medical Examiners, prescribing its powers and duties, to provide for the licensing of practitioners of medicine and midwifery, and to regulate the practice of medicine and midwifery, in the State of Illinois, and imposing penalties, and to repeal all acts or parts of acts in conflict therewith.

SECTION 1.—*Be it enacted by the People of the State of Illinois, represented in the General Assembly*, That a board of examiners to be known as the "State Board of Medical Examiners" shall be appointed as follows: Within sixty days after this act shall take effect, the Governor shall appoint nine (9) physicians of recognized professional ability and standing, who are residents of the State, and legally qualified practitioners of medicine therein, as members of said board, who shall hold their office until their successors are appointed and qualified. The members of said board so first appointed, shall determine by lot, their respective terms of office, so that the term of one member shall expire on Dec. 31, 1898, and the term of two members on December 31 in each year thereafter. And at the expiration of the term of office of each of the members of the board, the Governor shall appoint his or their successor or successors, whose term of office shall be for the period of five (5) years; and all vacancies occurring in the membership of the board, by resignation or otherwise, shall be filled by the Governor, and all appointments on said board shall be made from physicians having the qualifications prescribed herein for members of the first board: *Provided, however*, That all appointments shall be made with the advice and consent of the Senate, but appointments made when the Senate is not in session may be confirmed at the next ensuing session thereof.

SEC. 2.—The said board shall, within thirty days after its appointment, meet and organize by electing a president, vice-president and treasurer from among its members, and a secretary who shall be a legally qualified physician, not a member of the board. Such officers shall hold office until the next annual meeting of the board, or until their successors are elected and qualified. The board shall prescribe the duties of its officers, and shall require the treasurer to give a satisfactory bond. The board shall adopt and have a common seal, and the president or presiding member and the secretary shall be empowered to administer oaths in taking testimony or in any matter pertaining to the duties of the board. A majority of the board shall constitute a quorum for the transaction of any business. It shall adopt such rules, regulations and by-laws not inconsistent with the laws of this State and of the United States, as it may deem necessary or proper to enable it to properly perform its duties and transact its business.

SEC. 3—The annual meeting of the board for the election of officers shall be held in the State Capitol on the second Tuesday of January in each year. The board shall also hold regular meetings on the second Tuesdays of April, July and October in each year, at such place as it may determine, and may hold other meetings at such times and places as it may deem necessary, or its duties may require.

It shall keep an official record of all its transactions, and a complete file of all applications for licenses, together with the correspondence pertaining thereto, and of all examination papers, and shall make a report of its transactions, annually, to the Governor, which shall include a statement of all monies received and disbursed by it, and an official list of all physicians and midwives authorized to practice in this State.

SEC. 4.—No person shall hereafter begin the practice of medicine, or any of the branches thereof, except dentistry, in this State, without first applying for and obtaining a license from said board so to do. Application shall be in writing, and in the form prescribed by the board, and shall be accompanied by the application and examination fees hereinafter specified, and with proof that the applicant is of good moral character, and has received a diploma conferring upon the applicant the Degree of Doctor of Medicine from some legally incorporated medical institution in the United States, in good standing, as may be determined by the board, at the time of issuing said diploma, or with proof that the applicant has pursued, in some institution of learning in some foreign country, a course of medical study not less in extent than the course of study prescribed for the Degree of Doctor of Medicine by legally incorporated medical institutions in the United States, in good standing, as aforesaid. When the application and proofs aforesaid have been inspected by the board, and found to comply with the foregoing provisions, the board shall notify the applicant to appear before it for examination, at the time and place mentioned in such notice. Such examination shall be in the English language, and embrace only those general subjects and topics, a knowledge of which is commonly and generally required of candidates for the degree of Doctor of Medicine by reputable medical colleges in the United States.

No person shall hereafter begin the practice of midwifery in this State without first applying for and obtaining a license from said board so to do. Applications shall be in writing, and in the form prescribed by the board, and shall be accompanied by the application and examination fee hereinafter specified, and with proof that the applicant is of good moral character, and has received a diploma from a school of midwifery, complying with the requirements of the board. When the application and proofs aforesaid have been inspected by the board, and found to comply with the foregoing provisions, the board shall notify the applicant to appear before the board for examination at the time and place mentioned in such notice. Such examination shall be in the English language, and of such character as to determine the qualifications of the applicant to practice midwifery.

All examinations provided for in this act shall be conducted under rules and regulations prescribed by the board, which shall provide for a fair and wholly impartial method of examination. If the applicant successfully passes his or her examination, the board shall issue to such applicant a license authorizing him or her to practice medicine or midwifery, as the case may be, in this State. Such license shall be in such form as may be determined by the board, and in accordance with the provisions of this act: *Provided, however*, any wilful violation, on the part of an applicant, of any of the rules and regulations of the board governing examinations, shall be sufficient cause for the board to refuse to issue a license to such applicant.

SEC. 5.—The application fee for those desiring to begin the practice of medicine under the foregoing section shall be $5 and the examination fee $15, and for those desiring to begin the practice of midwifery the application fee shall be $5 and the examination fee $10, and, in all cases, both the application and the examination fee must accompany the application: *Provided, however*, if the application and proofs accompanying the same are not approved, or the applicant fails to pass the examination fee shall be returned: *And provided further*, in case the applicant fails to pass his or her examination, he or she shall, after the expiration of six months, and within a period of two years, be entitled to one re-examination without the payment of any additional application fee.

SEC. 6.—Any practitioner of medicine or midwifery, who has been licensed to practice by the licensing authorities of another State, whose standard of requirements for a license to practice was, at the time of the issuing of such license, not lower than that prescribed by this act and by the board herein provided for, may be granted a license to practice in this State, without examination by this board, upon payment of the fee hereinafter specified, to the treasurer of the board, and upon presenting to the board his or her license or certificate to practice issued by the proper authorities of such other State, together with proof that he or she is of good moral character, and is the person named in such license or certificate: *Provided, however*, the board may further require that such applicant shall furnish proof of the requirements he or she had to comply with in obtaining his or her license or certificate from the authorities of the State which issued the same.

The license fee for practitioners of medicine applying for license under this section shall be fifty (50) dollars and for practitioners of midwifery thirty (30) dollars.

SEC. 7.—That all persons who, at the date of taking effect of this act are qualified to practice medicine or midwifery, under the laws of this State, in force at the time of the passage of this act, and who desire to continue in practice, shall, within six months after the appointment and organization of the Board of Examiners provided for in this act, apply to such board for a license, which shall be issued by the board on payment of a fee not to exceed one dollar. *Provided*, the board may refuse to issue such license to any such applicant for cause hereinafter provided. All licenses issued under the provisions of this and the fore-

going sections shall expire on a date to be named therein, not more than one year from the date of issue, so that all licenses outstanding at any one time shall, as nearly as may be, expire on the same date.

SEC. 8. That all licenses, issued under the provisions of this act, may, at the date of their expiration, be renewed for a period of one year, upon payment to the board of a renewal fee not to exceed one dollar, which renewal shall be evidenced by a new license: *Provided, however*, the board may refuse such renewal license for cause as hereinafter provided.

The failure of a licentiate to obtain a renewal of license at the date of its expiration shall render such practitioner liable to the penalties provided for by this act for practicing without a license, but will not prevent application for a renewal license at some subsequent date, not later than one year from the date of expiration of his former license, within which time, subject to all the conditions for renewals heretofore provided for, the board may issue a renewal license which shall expire at the same date as if issued at the date of expiration of his former license. *Provided, however*, retirement from practice or removal from the State shall not deprive the licentiate of the right to a renewal within five years after such retirement or removal.

All original licenses issued by the board shall be signed by all the members of the board. All renewals shall be signed by the president and secretary of the board, and attested by the seal of the board.

SEC. 9.—The board may refuse to issue any license provided for by this act, whether an original or a renewal license, if it shall appear that the person applying therefor has been guilty of persistent inebriety, or the practice of criminal abortion, has been convicted of a crime involving moral turpitude, or has, by false or fraudulent representations, obtained practice in his or her profession, or, by the false or fraudulent practice of his or her profession, has obtained money or any other thing of value: *Provided, however*, no person shall be finally refused a license until after the applicant for the same is given at least thirty days' notice of the grounds for such refusal, and opportunity given the accused for a hearing before the board to show cause why the board shall not finally refuse his or her license, at which hearing the accused shall be entitled to be represented by counsel.

SEC. 10.—That any person shall be regarded as practicing medicine within the meaning of this act who shall operate for or upon, prescribe for, or otherwise treat, or profess to heal or cure any physical or mental ailment, or any physical injury to, or deformity of another: *Provided*, nothing in this act shall be construed to apply to the practice of dentistry, to the administration of domestic or family remedies, in cases of emergency, to commissioned surgeons of the United States Army or Navy, or Marine-Hospital Service, in the discharge of their official duties, nor to practitioners of other States when acting in consultation with licentiates of this State.

SEC. 11—That any itinerant vender of any drug, nostrum, ointment or appliance of any kind intended for the treatment of disease or injury, who shall vend or sell any such drug, nostrum or appliance, or who shall, by writing or printing, or any other method, profess to the public to cure or treat disease or deformity by any drug, nostrum, manipulation or other expedient, shall pay a license of one hundred (100) dollars per month into the treasury of the board, to be collected by the board in the name of the People of the State of Illinois, for the use of said board. And it shall be lawful for the State Board of Medical Examiners to issue such license on application made to said board, said license to be signed by the president of the board and attested by the secretary with the seal of the board, but said board may for sufficient cause refuse said license. Any such itinerant vender who shall vend or sell any such drug, nostrum, ointment or appliance, or who shall, by writing or printing or any other method, profess to cure or treat disease or deformity by any drug, nostrum, manipulation or other expedient, without a license so to do, shall be deemed guilty of a misdemeanor and upon conviction thereof shall be punished for the first offense by a fine of not less than one hundred dollars, or by imprisonment in the county jail for a period of not less than thirty nor more than ninety days, or by both fine and imprisonment, and for each subsequent offense the penalty shall be double that of the preceding one.

SEC. 12.—That the office expenses of the board, and all expenses arising from the proper enforcement of the provisions of this act, shall be paid from the fees above provided for, and from such fines as may accrue to the board for the violation of the provisions of this act.

SEC. 13.—That the salary of the secretary of the board shall be fixed by the members of the board, and shall not exceed the sum of $3,000 per annum. The members of the board shall receive no compensation; but their traveling and other expenses incurred while employed on the business of the board shall be paid.

SEC. 14.—That any person hereafter practicing or attempting to practice medicine or midwifery in this State without having a license so to do as herein provided for, or contrary to the provisions of this act, shall be deemed guilty of a misdemeanor and upon conviction thereof shall be punished for the first offense by a fine of not less than one hundred dollars and not exceeding two hundred dollars, or by imprisonment in the county jail for a period of not less than thirty days nor more than ninety days, or by both fine and imprisonment, and for each subsequent offense the penalty shall be double that of the preceding one: *Provided*, that the provisions of this section shall not apply, for a period of six months after the appointment and organization of the first board, to those persons who are qualified to practice medicine and surgery, or midwifery, under the laws of this State in force at the time of the passage of this act.

SEC. 15.—That all suits for the recovery of the several penalties prescribed in this act shall be prosecuted in the name of "The People of the State of Illinois" in any court having jurisdiction, and it shall be the duty of the State's Attorney of the county where such offense is committed to prosecute all persons violating the provisions of this act, upon proper complaint being made. All penalties shall be paid into the treasury of the State Board of Medical Examiners.

SEC. 16.—All acts and parts of acts inconsistent or in conflict with the provisions of this act are hereby repealed.

THE PUBLIC SERVICES.

Army Changes. Official List of changes in the stations and duties of officers serving in the Medical Department, U. S. Army, from March 20 to 26, 1897.

First Lieuts. Isaac P. Ware, Robert S. Woodson and George DeShon, Asst. Surgeons, are ordered to report in person to Lieut.-Col. David L. Huntington, Deputy Surgeon-General, president of examining board, at such time as may be required, for examination for promotion.

Capt. Nathan S. Jarvis, Asst. Surgeon, is relieved from duty at Wi... Point, N. Y., to take effect upon the expiration of his present le... of absence, and ordered to Ft. Clark, Texas, for duty.

Major Henry S. Kilbourne, Surgeon, will be relieved from duty at ... Clark, Texas, upon the arrival at that post of Capt. Jarvis, ... ordered to Madison Bks, New York, for duty.

Capt. Eugene L. Swift, Asst. Surgeon, extension of leave of abse... granted on surgeon's certificate of disability is still further exten... one month on surgeon's certificate of disability.

First Lieut. Francis A. Winter, Asst. Surgeon, upon completion of ... examination for promotion, ordered to West Point, N. Y., to re... to the superintendent of U. S. Military Academy, for duty at ... post.

Capt. Charles Willcox, Asst. Surgeon, is relieved from duty at W... Point, N. Y., to take effect upon the expiration of his pres... leave of absence, and ordered to Ft. Bliss, Texas, for duty at t... post, relieving Capt. Ogden Rafferty, Asst. Surgeon. Capt. Raffe... on being thus relieved, is ordered to Willets Point, N. Y., for d... at that post.

A board of officers to consist of: Lieut.-Col. David L. Huntingt... Deputy Surgeon-General; Major Walter Reed, Surgeon; Capt. Char... M. Gandy, Asst. Surgeon, is appointed to meet at the Army Medi... Museum Building, Washington, D. C., on Tuesday, May 4, 1897, at ... o'clock A.M., for the examination of such officers of the Medi... Department as may be ordered before it, to determine their fitn... for promotion.

Navy Changes. Changes in the Medical Corps of the U. S. Navy ... the two weeks ending March 27, 1897.

Asst. Surgeon D. N. Carpenter, detached from U. S. naval laboratory a... department of instruction, Brooklyn, N. Y., and ordered to t... "Brooklyn" March 15.

Asst. Surgeon F. L. Pleadwell, detached from U. S. naval laboratory a... department of instruction, Brooklyn, N. Y., and ordered to temp... rary duty on the "Constellation" March 15.

Surgeon H. G. Beyer, detached from the "Newark" March 17, a... ordered home to await orders.

Asst. Surgeon A. W. Dunbar, detached from the "Newark" March ... and ordered to the "Vermont."

Surgeon M. H. Simons, detached from torpedo station, Newport, R. ... April 15, and ordered to the "Columbia."

Surgeon E. Z. Derr, detached from the "Columbia" on being relieve... ordered home and granted three months' leave.

P. A. Surgeon J. M. Moore, ordered to the "Alert" upon the arrival ... that vessel at Mare Island, Cal.

P. A. Surgeon L. W. Spratling, detached from the "Alert" upon bei... relieved, ordered home and granted three months' leave.

Asst. Surgeon G. D. Costigan, detached from naval laboratory a... department of instruction, and ordered to the "Vermont."

Surgeon C. A. Siegfried, detached from the "Massachusetts" a... ordered to the torpedo station.

Surgeon S. H. Dickson, detached from the "Texas" and ordered to t... "Massachusetts."

Surgeon W. R. Du Bose, detached from the "Terror" April 6, and ordere... to the "Texas."

Surgeon Oliver Diehl, detached from the Philadelphia naval hospit... April 5, and ordered to the "Terror" April 6.

Surgeon T. C. Craig, placed on the retired list from March 12.

P. A. Surgeon R. M. Kennedy, detached from Norfolk naval hospit... April 3, and ordered to the Philadelphia naval hospital.

Asst. Surgeon D. N. Carpenter, detached from the "Franklin" a... ordered to the "Raleigh."

Change of Address.

Arthur, Mattie L., from Oakland to 1341 South 33d St., Omaha, Neb.
Davison, C., from 1002 Madison St. to 955 Jackson Boul., Chicago, Ill.
Fullerton, Anna M., from 22d and North College Ave. to 123 S. 16th St., Philadelphia, Pa.
Houston, J. M., from 707 Sutter St. to 502 Powell St., San Francisco, Cal.
Price, M. F., from Los Angeles to Colton, Cal.
Siegfried, C. A., U. S. N., from Washington, D. C., to Newport, R.I.
Starr, J. W., from Liberty Center to Chariton, Iowa.
Whiting, A. D., from German Hospital to 1223 Spruce St., Philadelphia, Pa.
Weatherby, B. J., from Hutchinson, Kan., to 65 N. Franklin St., Wilkes Barre, Pa.
Warner, C. J., from Congress to Wooster, Ohio.

LETTERS RECEIVED.

Aultz, L. L., Patrick, W. Va.; Ames & Frost Company, Chicago, Ill.; Alma Sanitarium Co., Alma, Mich.; Allouez Mineral Spring Co., Green Bay, Wis.
Bryant & Douglas B. & S. Co., Kansas City, Mo.
Crawford, J. D., Philadelphia, Pa.; Clark, M. F., Princeton, Ill.; Collins, H. O., Quincy, Ill.; Chidester, C. W., Delaware, Ohio.
Davis, A. C., Topeka, Kan.; Dering, H. R., Chicago, Ill.; Drake, E. L., Philadelphia, Pa.
Elliott, J. P., Boston, Mass.
Ferguson & Goodnow, Chicago, Ill.; Feick Brothers, Pittsburg, Pa.; Featherston, J. S., Macon, Miss.
Gould, George M., Philadelphia, Pa.
Hitchcock, Chas. W., Detroit, Mich.; Horlick's Food Co., Racine, Wis.; Herrick, A. B., Lisbon, N. Dak.; Hollister, T. C., Louisville, Neb., (2); Hall & Ruckel, New York, N. Y.; Howle, W. P., Oran, Mo.; Howard, Wm. Lee, Baltimore, Md.
Jelks, J. T., Hot Springs, Ark.
Koechl, Victor & Co., New York, N. Y.; Kellogg, James C., London, England; Knox, Myra, Oakland, Cal.
Lewis, Le Roy, Auburn, N. Y.; Lucas, S. T., Vanhill, Tenn.; Ludwig, H. C., New York, N. Y.
Markel, C. F., Columbia, Pa.; Mills, H. R., Port Huron, Mich.; Meynen, Geo. K., Jamaica, N. Y.; Mulford, H. K. & Co., Philadelphia, Pa.; Mogk, W. A., Ann Arbor, Mich.
Norwich Pharmacal Co., Norwich, N. Y.
Post-Graduate Medical School, Chicago, Ill.; Parke, Davis & Co., Detroit, Mich.; Prince, L. H., Chicago, Ill.
Sutliff & Co., Peoria, Ill.; Sargent, C. E., Chicago, Ill.; Savage, G. C., Nashville, Tenn.
Vance, W. K., Bristol, Tenn.
Walsh, Ralph, Washington, D. C.; Whitfield, S. T., Uniontown, Ala.; Warren, Wadsworth, Detroit, Mich.; Walker Pharmacal Co., St. Louis, Mo.; White Rock Mineral Spring Co., Waukesha, Wis.; Wiener Klinische Rundschau, Vienna, Austria.